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—Dr. John B. Jackson,
President M. S. M. S., 1926-1927

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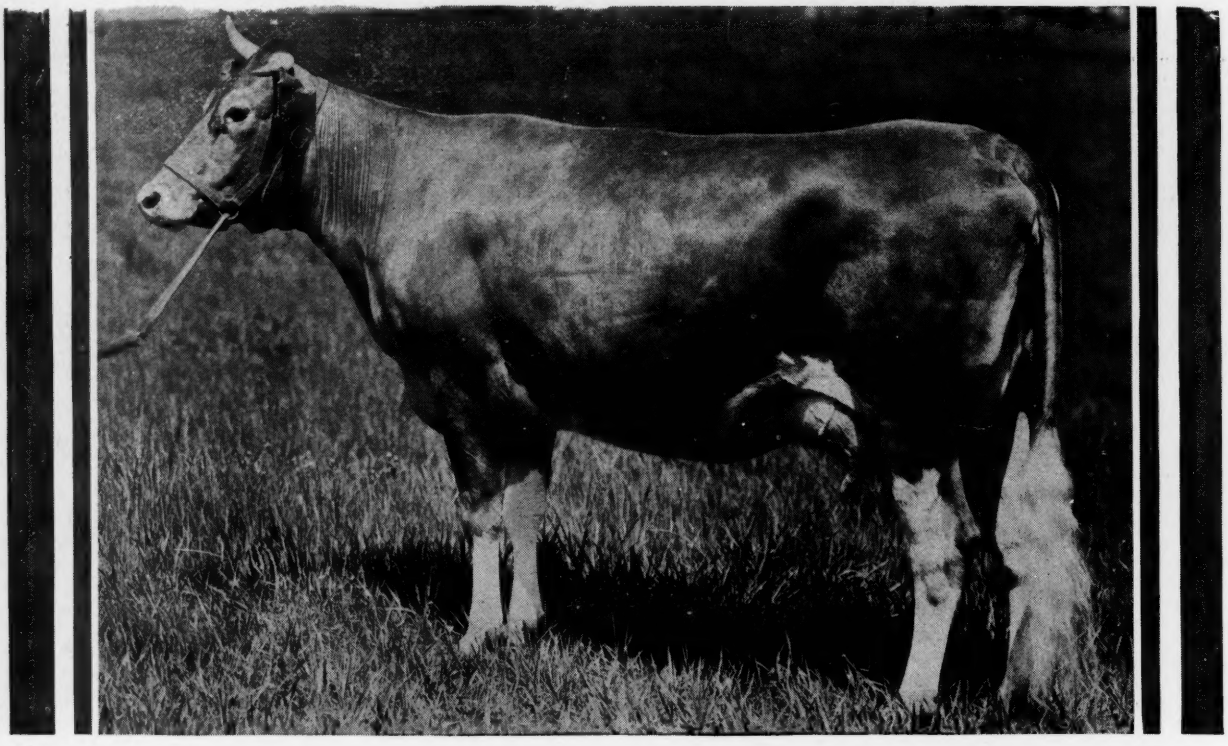

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CONTENTS

	Page
Syphilis of the Upper Air Tract. John F. Barnhill, M.D.	83
Factors of Safety in Operations for Hyperthyroidism. C. D. Brooks, M. D.	89
Community Hospitals—Some Problems Worthy of Consideration in Their Organization and Management. Arthur O. Hart, M.D., F.A.C.S., and Eugene Hart, M. D.	95
Gallbladder Disease as a Cause of Death. Earl Ingram Carr, M.D., F.A.C.S.	102
Light Therapy in Ophthalmology. Raymond J. Sisson, M.D., F.A.C.S.	106
The Status of Modern Surgery in Mastoid Infection. Don M. Campbell, M.D., L.A.C.S. (Edinb.) F.A.C.S. and John M. Carter, A.M., M.D., F.A.C.S.	109
The Prevalence of Pulmonary Tuberculosis with Acute Onset. Bruce H. Douglas, M.D.	112
Modern Methods of Treating Prostatic Obstruction. Verne C. Hunt, M.D.	116
Spontaneous Entero-Anastomosis of Ileum and Jejenum. Pauline Beregoff, Ph. G., M.D.	121
Medical Retrospect and Forecast—1929-1930	123
Michigan's Department of Health. Guy L. Kiefer, M.D.	125
Truth About Medicine	127
EDITORIALS—	
The Craft of Surgery	129
Gallbladder Surgery	129
Oil and Civilization	130
One's Own Business	130
Carbon Monoxide Poisoning	131
The Grenz Ray	131
The Editor's Easy Chair	134
News and Announcements	136
Communications	138
Deaths—Dr. John A. Lenfesty	140
County Society Activity	141
Woman's Auxiliary	150
The Doctor's Library	150

SYPHILIS OF THE UPPER AIR TRACT

JOHN F. BARNHILL, M. D.*

INDIANAPOLIS, IND.

I do not flatter myself on being able to carry any new message to you on this subject. I was led to choose it chiefly because at the moment of receiving your very gracious invitation to be one of your guests, I had just finished reviewing some of my experiences in diagnosing and treating syphilis over a rather long period, and fancied I might have unearthed a few items of interest.

In the first place I was impressed by the comparative ease with which lues of the upper air tract usually may be diagnosed. I say usually, for diagnosis was not by any means always readily made, and the exact nature of the affection of the region was often in doubt, even after my conferees were consulted and all available laboratory methods of assistance had been employed. Then too, there were not a few instances in which diagnosis was long delayed or was even impossible to make for the reason that all history was negative and the physical appearance of the disease closely resembled other affections. These cases occurred chiefly before the Wassermann reaction was known and the spirocheta pallida had been discovered. Again, while the results of treatment were usually satisfactory, indeed often quite amazing in their good effects, cases were not wholly wanting in which benefits were not received, and the patient rapidly drifted to disaster. These and other facts relating to the disease, I felt might justify opening a time worn subject anew, especially if it partook somewhat of the element of personal experience.

Much research has been given to the history of syphilis and many important facts have been uncovered. Among these is the belief that lues did not exist prior to the fourteenth century. Some investigators think they have proven that the disease originated in America and was first introduced into Europe by sailors who accompanied Columbus on his voyage of discovery in 1492. One of the most convincing

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proofs that the affection is a comparatively modern disease was established by Virchow who was unable to find evidence of syphilis in any human bones in the museums of Europe, although these contained the skeletons of many who died long before the discovery of America.

Although syphilis had received accurate clinical study prior to the present century, it has in the first decade of this latter period become better known than in all previous centuries. Briefly, Roux proved in 1903 that the affection was inoculable. In the same year Hoffman demonstrated the spirochete pallida. In 1906-7, Wassermann successfully employed the serum compliment fixation in diagnosis, and in 1909-10 Ehrlich discovered arsphenamine and employed it in the successful treatment of lues. Thus it is seen that in a few years the methods of diagnosis and treatment of the affection have been vastly improved. But even with the advances that have been made, there still remain cases in which diagnosis must be delayed and is even then uncertain, and in which treatment is unsatisfactory or fails altogether. Early diagnosis of syphilis of the upper air tract, as of other parts of the body, is undoubtedly of greatest importance, for treatment, once the nature of the affection is known with certainty, is now satisfactory in the majority of instances. There is no other disease in which early diagnosis is of greater value. Delay in determining the nature of the affection in the throat or nose especially is responsible for most of the disastrous consequences, including permanent, humiliating deformity, a wrecked nervous system, or death from intracranial extension.

To be adequately trained in laryngology undoubtedly requires that the practitioner shall have a good knowledge of general disease; to be satisfactorily prepared to cope with lues of the nose and throat demands that the laryngologist shall have exceptional knowledge of the behavior of syphilis from the inception of the primary lesion on throughout the whole subsequent life of the individual, for in the first place the lesions of all stages of syphilis are frequently found in the upper air tract, and in the second place, the nature of these manifestations may not be recognized at all unless the laryngologist is thoroughly familiar with the lesions that may be found in the same individual in other structures, even though in distant parts of the body.

The primary stage of the disease is of least importance in laryngology because of its comparatively infrequent occurrence in the upper air tract. That it does occur in the vestibule of the nose and in the mouth and pharynx has been abundantly proved. Persons free of the disease who have occasion to handle syphilitic individuals, or utensils infected with luetic virus, may pick their noses subsequently and infect the septum or nasal vestibule. Numerous instances of primary chancre of the septum and vestibule due to this cause have been recorded. Zeisler has recently reported three cases of this type, all on the cartilagenous portion of the septum just inside the vestibule. These patients all had been seen and treated by laryngologists who had made a correct diagnosis in only one instance. One patient had attended a Chicago Eye and Ear infirmary where he had been treated for six weeks under the mistaken diagnosis of "ulcer in the nose, and sinus trouble." Another was treated by a "leading Chicago rhinologist" for "simple sore" of the nose. These mistaken diagnoses on the part of the rhinologists strongly suggest that this type of surgeon may be either ignorant of the appearance of primary syphilis in the region of his specialty, or that he is too often careless in properly recording his diagnosis.

Numerous instances of primary infection of the lips and mouth from kissing and biting are on record. Cole reports the case of a chancre on the lip of a baby resulting from the kiss of a luetic relative. Later the father was infected on his lips from kissing the baby. This father later infected the child's mother and the latter being six months pregnant gave birth to a syphiletic child. Thus four cases in one family resulted from an unwanted kiss of a meddlesome relative.

Cole further states that bites inflicted during caressing are especially likely to be followed by chancre of the lips. This same author indicts especially as contagion carriers dental instruments and kitchen utensils, and calls attention to his finding that out of 61 cases of extragenial chancre late positive diagnosis occurred in only 37, and expresses the opinion that this record is better than is usually found.

Infected utensils used in eating are undoubted, occasional infection carriers. Unnatural sexual practices are responsible for some instances of mouth and throat contamination. Only recently I have seen such a case in a woman of apparent culture and refinement. I have seen four instances of

chancre on the lips of young adults that were clearly traceable to kissing. I have also seen three cases of lues in children that were due to using infected utensils. One, a child of six years who had used the same pencil as a seat mate who suffered from secondary lesions of inherited syphilis of the mouth. This child had serious nasal symptoms that were designated catarrh by the physician who first saw her, and she rapidly developed an iritis from which she lost one eye, all apparently without the thought on the part of her medical advisor that the affection might be luetic, for he advised the parents to take her to a milder climate for the relief of her "catarrh". This child has now grown to womanhood and has developed, in addition to the eye and nasal affections narrated, and in spite of active treatment, an atrophic rhinitis and complete loss of hearing in both ears from labyrinthine involvement.

Numerous authorities have recorded the initial lesion of syphilis on the lips, or in the mouth or pharynx. L. Duncan Bulkley, writing on "Syphilis in the Innocent," states that of 9,058 cases of extragenital chancre 307 were found in the pharynx, chiefly on the tonsils. Szadek reported 200 instances in which hard chancre was located on the tonsils. Cheatham in 1903 states that he has seen seven cases of primary chancre in the throat during a period of one and one-half years.

Primary extragenital chancre occurs most frequently on the lips; next oftenest on the tongue, while only occasionally is the affection seen at the angle of the mouth and on the mucosa of the cheeks. Of 55 extragenital chancres seen by Porter, 31 were on the lips, 6 on the tongue, and one each respectively at the corner of the mouth and in the nasal vestibule. Twenty per cent of Bulkley's extragenital cases were on the lips, and in a later report of private expereince the same author found 50 chancres on the lips out of a total of 113 cases.

It is probable therefore that primary chancre of the lips, mouth or throat is more common than supposed, and that often it may pass unrecognized as such by the laryngologist. If the true nature of such a sore be not determined, the chancre will here as elsewhere disappear spontaneously in due time and the patient be permitted to pass on to the ravages of other stages wholly untreated. The responsibility of the laryngologist to make a positive diagnosis is plain for it is not probable any one else will have an opportunity soon, should the case be thus neglected.

Chancre of the lips or cheeks may be mistaken for simple canker and if on the tonsil, for ulcerative tonsillitis, malignancy or Vincent's angina. In most instances the history of the case, the appearance of the ulcer, the indurated rim and base and the intractability to ordinary means of treatment should lead to a suspicion of the true nature of the lesion, but there are undoubted instances in which even with all the modern laboratory assistance at command, the diagnosis may still remain in doubt. I have had personal experience with only one chancre of the throat. It was in a woman of forty, already in the cancer age, and since the patient would give no history, I was much puzzled until secondary lesions were evident.

Secondary syphilis of the nose perhaps seldom occurs in the acquired variety. In inherited lues it is common enough, the chief indications being mucoid discharges, snuffles and more or less impaired nasal breathing. This type in infants may be mistaken for a common cold, adenoids or even for enlarged thymus. The secondary manifestation is often found in the mouth and pharynx but very rarely in the larynx. Unless the observer considers every case of shallow ulceration and exudate in these regions a possible secondary lesion, he will undoubtedly overlook many instances of syphilis. The mucous patch occurs in the mouth and pharynx coincident with the skin eruption, and other general secondary symptoms, and unless one is thoroughly familiar with these latter it is easy to overlook the true nature of the former, especially among private patients in whom the affection may be little suspected. The mucous patch may be seen on any part of the mouth but most often on the lips, around the molar teeth and upon the soft palate. The plaque often has an appearance closely resembling oral exudates seen in pneumococcic or streptococcic infection, diphtheria or Vincent's angina. There are usually enough differences in appearance to distinguish the secondary lesion of syphilis from the other affections, and yet I well recall many instances in which had I depended solely upon objective appearances in the mouth and throat, I would certainly have gone widely astray in diagnosis. In such cases repeated examination and laboratory assistance are necessary and snap diagnosis is reprehensible. Valuable as one's clinical experience is, there are cases in which if experience is depended upon

solely, serious error is certain to follow. I have had many cases in which subsequent study and laboratory examinations have completely changed my first impressions of oral lesions which seemed on casual inspection to be luetic, and vice versa.

Throughout an experience covering more than a quarter century I have marveled at the fact that so few innocent people become infected from more or less close contact with those having active secondary lesions in the mouth. Close companions, one luetic, others not, waiters in hotels, servants in families have been under observation for considerable periods in which no innocent victims became infected. It is true of course that in all such instances rigid instructions were given concerning avoidance of transmitting the disease. Comparative immunity of the innocent no doubt depends more on the short life of the spirochete outside the body than upon any scrupulous care on the part of those infected. Dental and surgical instruments that are used on one patient after another after short intervals are undoubtedly a menace. Sterilizing outfits are now a part of almost every office, and risk is at present minimized, but the period is not remote when many dental or other surgeons only rarely, if ever, actually boiled their instruments between patients. In this connection, I recall a personal experience and perhaps narrow escape I myself had from luetic infection from dental instruments. I had for some days been treating a young man who suffered from extensive, virulent secondary lesions of the mouth. During the same period, I had an engagement with a leading dentist to have a crown placed. When I passed into the dental operating room my patient with secondary mouth lesions passed out. On noting that the dentist did nothing more than rinse the instruments he had been using on the luetic patient, and which he evidently proposed to employ in treating me, I asked him if he had seen anything unusual about the previous patient's mouth. He replied that he had not. I then related my knowledge of the infectious state of the young man's oral cavity and insisted on boiling all instruments, which was done. About three months later I discovered mucous patches on the mucosa of the cheeks and gums of a young lady whom I knew had been a patient of this same dentist on the day before my experience. The circumstances were such that it was evident direct transmission of the disease from dental instruments to an innocent patient had taken place. This was many years ago and I am now certain that any such occurrence must be exceedingly rare, if it ever happens.

The period during which skin eruption occurs and mucous patches appear in the mouth and throat provides another feature of paramount interest to the otolaryngologist, for it is early in the secondary stage of the luetic affection that the nervous system is most often affected. One of the vulnerable parts in this system appears to be the accoustic nerve and hence the examiner on finding evidence of secondary syphilis in the throat at once thinks of the possibility of subsequent labyrenthine disease and deafness, or at once accuses the lues he finds present as the cause of any sudden deafness that may recently have taken place, and begins treatment at a period most serviceable to the patient.

I have seen instances of tertiary syphilis of the nose and throat much oftener than primary or secondary lesions. Gumma, the most characteristic pathology of this stage, may attack any structure of the nose, pharynx or larynx. The fact that the gumma may appear at any period of years after the patient has seemed to be cured of his lues, and when apparently in perfect health, may throw the examiner off the scent in diagnosis, especially if no history of primary lesion is obtainable and the patient has been entirely well for many years. Such a gummatous tumor may appear in young adult life; in those far past middle age, or at any period between. There is nothing wholly characteristic of its method of coming, or in all cases of its physical appearance when once established. Such a tumor appearing in the upper air tract at the cancer age may give rise to grave apprehension of malignancy, especially if the patient be anaemic, worn and cachectic, as he often is. Or there may be strong reasons for believing the gummatous tumor may be tubercular, and the patient may look the part. In early adult life sacroma may be strongly simulated. Occasionally the similarity of the tertiary syphilis of the nose or throat to one or the other of the above named diseases is so close that both experience and laboratory aid combined are not sufficient to a positive diagnosis. In such cases development must be awaited, but the progress closely watched and the patient treated meanwhile as though the affection be syphilis, for should it be that disease, and treatment is neglected, horrible, irreparable destruc-

tion and deformity might take place while procrastination were indulged in. It may in the end be found that the affection under observation is either cancer or syphilis, and sometimes the complete evidence on which diagnosis is based will clearly indicate that both these affections are present even though the tumor may be distinctly one or the other. I find numerous instances in my own experience in which there was a persistent, positive Wassermann reaction and a well established history of lues, but in which active antiluetic treatment was wholly ineffective and the patient continued rapidly on to death from cancer. These are instances in which both affections were present, but the cancer was more active than the lues.

It is unnecessary to dwell on the ravages of gumma in the nose and throat, or on the shocking deformities that follow the repair of the destroyed tissues, for all this is but a familiar part of your work. The thing I would most wish to do, the one thing every otolaryngologist would most wish to accomplish, is to prevent every such unfortunate outcome, and this we must realize can best be done by early diagnosis and early, rational treatment. A safe rule to follow in this respect is to regard all suspicious lesions of the upper air tract as luetic until they are proven otherwise by extended observation and laboratory tests, now fortunately available in almost every community. No time should be wasted in making a diagnosis and no opportunity should be lost to prevent breaking down and permanent deformity of healthy parts by instituting active antiluetic treatment while awaiting a conclusion as to the nature of the disease. Such treatment does no harm and may be the means of preserving intact tissues that would otherwise rapidly break down, and as a consequence leave irreparable destruction and deformity in its wake.

Treatment of any stage of syphilis is so well known to bodies such as this, that I shall waste no time on particulars concerning modes and medicaments. My own feeling concerning the results obtained in private practice, even before the introduction of arsphenamine, is that when early opportunity has been given and early diagnosis was made, anti-syphilitic medication has yielded greater satisfaction than ever was obtained from treatment by drugs of any other bodily ailment. The rule has been that when the case has been diligently followed by medication and watchfulness through a sufficient period that almost uniformly good results have followed. In the tertiary stage, even when gumma of the nose or throat was already advanced to the point of breaking down, it has been my happy good fortune to prevent disaster in almost every instance. My absolute faith in mercury and pottasium iodide, born of satisfactory and often even brilliant results before the day of neosalvarsan, has led me to continue their use, not to the exclusion of the newer remedies, but always in the belief that their value is now scarcely surpassed.

I have in the period of my practice found a few cases of intractable lues in whom no type of medication given in any quantity seemed to check the disease in the least. I recall one, a married woman of 25 and of good family, who had contracted the disease from her husband, who when I first saw her, suffered from a disintigrating gumma of the pharynx. Despite all that could be done, the ulceration continued unchecked until invasion of the internal carotid occurred and sudden death from hemorrhage followed. I have witnessed a few other unchecked cases, chiefly those attacking osseous structure of the face or skull.

One further observation I have frequently made which is of some importance, I believe in the management of lues is that the patient is often overtreated. This usually occurs in response to the anxiety of all concerned to eradicate the disease at once. It is wholly doubtful if overtreatment ever helps, and it is entirely certain that excessive medication often puts the patient into a physical state far worse than the lues. The cellular elements of the blood are damaged and its chemistry changed. The stomach and intestinal tract are often so much damaged that nutrition is interfered with to a serious extent; and lastly the kidneys and other vital organs are not infrequently so hopelessly crippled that the luetic patient dies, not from syphilis but from the effects of too much medication. In the treatment of lues, if one would be successful, the patient himself must be taken constantly into account. Balanced diet, outdoor life, freedom from worries, and in general proper hygienic measures, seem in many instances almost as essential to the cure as are the best chosen antisyphilitic remedies.

DISCUSSION

Dr. Robert H. Fraser, (Battle Creek): Out of his large experience and that of the authorities he quotes, Dr. Barnhill has given us the great privilege to hear this subject in a very new way, and

anything I might add would be superfluous. I shall merely show you a little of my temerity and my audacity as relating to differential diagnosis of these cases. I have to study them carefully. Before there was so much in the literature about tests and treatment we were given more accurate descriptions of the lesions, so that we could tell what we were dealing with. Usually from the history we have the idea that there are two or three things only to be considered. Syphilitic lesions in this field, however, are so diverse as to require unusual diagnostic care. The average practice contributes less experience in them than was formerly the case. It is false economy to spare effort in differential diagnosis. We try to limit the possibilities to three at the outside, exclude one of these on the history, and pit the two remaining, for example, lues and tuberculosis, against one another by every possible relevant means, seeking, however, the least radical measure first. These include examination of the chest with roentgenograms, serological tests, examination of lesions by the syphilologist, antiluetic treatment—usually .45 gm. neosalvarsan. The estimates of the two consultants mentioned upon the general constitutional impression of the case, and of the color and other appearances of the lesions, form valuable aid. Incision for tissue is postponed as the last measure. The element of luck will always be added to or subtracted from any management, as the following case of tonsillar lesion well shows: Mrs. E. H., age 69, came to us April 16, 1922, complaining of a sore left tonsil of four months duration. The following letter from her home physician indicates the element of luck: "July 22, 1922. Mrs. E. H. of this place states that she was under your care some time ago for a certain peculiar—to me—ulcer of the throat. I had her case at first and although her Wassermann was negative, I treated her anti-syphilitically. However, she did not respond as soon as I wished, so I recommended that she go to one of the larger clinics to see a specialist. At this clinic they pronounced it cancer. But she was in my office today for paralysis of the extrinsic muscles of the left eye and her throat is O. K. I am happily surprised at her cure and am anxious to know the diagnosis and treatment of your department. If you will kindly inform me I shall be very grateful." Neosalvarsan, .45 gm. was given by us pending receipt of a Wassermann report, which, by the way, was negative.

Dr. E. J. Bernstein, (Detroit): Whenever Dr. Barnhill is on the program, everyone rather expects to hear something well worth listening to, and I doubt if we have been disappointed this afternoon, and there are many of us who are in a position to profit very much by this excellent paper. I remember a number of years ago when I was connected with a large hospital in Baltimore, we used to see the most terrific ravages of syphilis—whole pharynges gone; most appalling things. I do not see them any more. I am wondering if this is due to the fact that I have not a large clinical experience any more or whether syphilis is not devastating to the extent it formerly did, or whether it is owing to the fact that more men are alive and alert, and becoming more alert, to the early symptoms and the proper way of treating this disease when in the early stages, so that we do not see these frightful advanced cases any more. I do think that doctors are more on the lookout for it, and certainly people are better educated concerning it.

Just one point about the ancient story of Columbus and syphilis. I feel that this is a myth. I remember reading a few years ago a very excellent article concerning this story, and in that article it said that syphilis was known in very ancient days in the east, in China and other parts of Asia, many years before the Christian era. In treating syphilis, and in fact in diseases of any kind where there is any doubt about what is going on, I always bear in mind the teaching of a professor of surgery when I was a student who said,—"First of all, if you know syphilis and how to treat it, you will be a good doctor and make a success; and if you have any doubt, suspect your own grandmother." I think this is a very wise maxim. I want to mention also the primary chancre of the mouth. I have not seen many, but a number of German writers, Hermann Schmidt among them, speak of them and say they are not always due to perverted sexual function. It is rather cruel to accuse every individual who has chancre of the tonsil or mouth of having indulged in perverted sexual intercourse. They are more frequently innocent than otherwise.

When we had to rely on clinical experience I think we were pretty alert in looking for symptoms, especially those of us who bore the old maxims in mind, and I think the younger men as well as the laboratories today are entirely too prone to rely upon the laboratory tests. I want to call attention to the fallacy of relying upon laboratory tests by referring to a report sent out by the Massachusetts General Hospital several years ago. The pathologist of the hospital made sections of some 500 cases in which there had been more or less suspected syphilis. In a large number, something like 35 per cent, in which the Wassermann had been negative, microscopic examination showed 60 per cent of that 35 per cent to have had ample evidence of syphilitic infection; on the other hand, in a large proportion of the percentage which had showed positive Wassermanns, careful microscopic examination failed to disclose any evidence of syphilis. I think, therefore, that while we should of course take the serological tests into consideration, we must not rely too greatly upon them and must combine them with our clinical evidence. I do not want to go too deeply into this, but two or three things have struck me. I suppose we all remember the theory that leukoplakia in the mouth was supposed to be due to syphilis and that it was considered to be a forerunner of cancer of the mouth. Just yesterday a man came into my office whose mother I treated about thirty-five years ago, who had a most frightful leukoplakia. She was a widow, not a smoker, and not syphilitic. She is now alive and well at 84 years of age. A great many men of the earlier school used to think that syphilis was a possible underlying cause of sarcoma, and I should not be surprised if a great deal of cancer of the lip attributed to smoking was not due to previous attacks of syphilis of the mouth. I rather doubt that where ten or fifteen million in the United States smoke, and a few hundred get cancer of the mouth, that this can be the cause; I think it must be attributed to some other causes. As to the incidence of gumma or syphilis of the upper respiratory tract in the presence of tuberculosis—how rapidly one may overlook syphilis when there is evidence of tuberculosis!

Dr. Robert Sonnenschein, (Chicago): I cannot add anything of material interest to this paper. I have been put on the defensive because I come from Chicago. I read Dr. Zeisler's article, and I may say that I was neither doctor

nor patient in any of the cases which were cited. One will frequently see an inner swelling of the mucosa covering the turbinates, which does not shrink when cocain is applied. The mucosa is reddened and thickened. Many of these cases are luetic.

So far as the story about the introduction of syphilis into Europe is concerned, it has been shown that among American Indians there was no syphilis, but it was assumed that it came from Haiti. Moody showed that it was not present in ancient Egypt—they had many diseases, but not syphilis. Whether it originated in China I do not know, but shortly after Columbus returned to Europe a tremendous epidemic broke out in Spain. Of course we know if a disease has been present for a long time a certain immunity is developed, whereas on its first appearance it acts as an epidemic, as witness the case of the South Sea Islands which were swept with measles.

One thing I notice in lues of the auditory nerve, which is an important thing to remember. In early syphilis bone conduction is markedly diminished, while air conduction is still very good. I had one case of a young man 19 years of age, with no luetic history, who heard a whispered voice with the opposite ear closed, at twenty feet. That was a case of auditory nerve lesion with deafness. Another thing, in giving treatment, be sure to give mercury before arsenic. If you don't, you are liable to have a reaction and the hearing will be made worse. Give a full course of mercury first before you give the arsenate preparations.

Dr. John F. Barnhill, (Indianapolis), (closing): I feel that what Dr. Fraser said, that syphilis is less often seen nowadays in its worst stages, is true. I also feel that this makes it much more important for us to be on our guard. The things we see all the time we are on the watch for, and we must keep the other things in mind. Of course the story of where syphilis originated is unimportant. It is here, and it has to be taken care of. It occurred to me that the demonstration made by Virchow was a most remarkable thing, as he examined bones from all parts of the world and did not find any evidence of syphilis in ancient times.

FACTORS OF SAFETY IN OPERATIONS FOR HYPERTHYROIDISM*

C. D. BROOKS, M. D.**
DETROIT

Of first importance is an early diagnosis in hyperthyroidism, if we wish to save a patient economic loss of time, and later degenerative changes in the essential organs. The diagnosis of hyperthyroidism is usually not difficult and often is very self evident upon the first examination. It is very important to rule out neuroses and pulmonary tuberculosis. A patient may have mild or marked hyperthyroidism accompanying either one or both of these conditions which would only be a secondary factor.

In addition to a carefully taken history we think that it is important to have X-ray studies made of the chest, as a part in the examination. This will avoid mistakes we have frequently seen in patients who have had thyroidectomy when they have well marked acute miliary tuberculosis.

While a basal metabolic rate is important as an aid in diagnosis we do not believe that it occupies the place of importance claimed for it by some clinicians, but it should be taken; if there is a question regarding the check-up with the clinical diagnosis. We advise its repetition every five days for at least three tests, but wish to emphasize the fact that the basal metabolic rate should not be depended upon at all to decide as to suitable time for operation, nor do we believe that it is of much value to discern the degree of hyperthyroidism in many cases. It is of great value as an aid in diagnosis in the case of recurrence of symptoms after partial thyroidectomy.

By early operation we will avoid changes, especially myocardial changes. If hyperthyroidism is allowed to remain it will often be accompanied by cardiac hypertrophy and other changes which are permanent.

TYPES FOR PURPOSES OF DISCUSSION

In our clinical work we divide cases of goiter with hyperthyroidism, into classes.

1. Primary hyperthyroidism (Exophthalmic type) (Graves disease).
2. Adenomatous goiter, with hyperthyroidism.

We believe a small classification of this kind to be of great value to the clinician and the family physician in making diagnosis of hyperthyroidism.

The reason we prefer the term primary hyperthyroidism instead of using either hyperplastic, Graves Disease or exophthalmic goiter is that we see a large number of cases of hyperthyroidism which definitely belong to Class 1, where the patient's symptoms of tachycardia, nervousness, tremor, and loss of weight precede

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any apparent enlargement of the gland and that exophthalmus occurs in these cases a number of weeks or even months later. If we waited for exophthalmus as one of the symptoms for diagnosis, the diagnosis would be late, while it is very important that it should be made early.

In the second type of adenomatous goiter with hyperthyroidism, there has been a pre-existing enlargement of one or both lobes of the thyroid for a definite period of time, months or years, before the patient noticed any of the symptoms of hyperthyroidism. We emphasize the great importance of suspecting a retrosternal adenoma in cases with marked hyperthyroidism where the enlargement cannot be noticed by the palpating hand. In the ordinary retrosternal goiter, adenomatous type, we believe it is well to have a carefully made stereoscopic X-ray plate as an aid in locating the position of the goiter and its extent in the thoracic cavity. We advise making a routine roentgenological examination of the aorta and heart in all cases of long standing adenomatous goiter with hyperthyroidism.

PRE-OPERATIVE TREATMENT

We wish to emphasize that the pre-operative treatment in most cases of hyperthyroidism should not be prolonged before advising operation. We are not discussing at this time the very mild cases of hyperthyroidism with a few clinical symptoms, with a very slightly increased basal metabolic rate, and patients in ordinarily good health, who may not need surgery, but good medical care. After well established diagnosis of hyperthyroidism we believe that rest is of more importance than any other single factor as a pre-operative measure, especially what we term malignant hyperthyroidism, where the clinical symptoms are confirmed by high basal metabolic rate with rapid loss of weight, extreme nervousness, with high pulse rate, inability to eat, sleep, and so forth. It is almost unbelievable what a period of ten days to two weeks of rest in bed will do. Many of these cases of the above type will have marked fibrillation, which will improve during this rest period, and when patients have judicious use of Lugols solution, which we give both in the primary and secondary types. We advise dosage of from 10 to 20 mms. every four hours in grape juice, digitalis is given to get the effect when indicated. Patients in very dangerous and serious condition can be brought to a satisfactory condition for operation, usually in a period of from one to three weeks. The average length of time is about ten days. It is important in choosing the time of operation that it be performed when the patient is in a period of remission. We do not hesitate to operate on patients with fibrillation in well marked cases of hyperthyroidism, provided they have had a course of rest, Lugols solution and proper digitalization. We feel, however, that digitalis given for a long period of time in hyperthyroidism is a very dangerous agent, and we believe that the prognosis after a long course of digitalis is not as favorable as in those who have had no digitalis except for a few days preceding the operation. We prefer, when possible, when digitalis has been given, that it be discontinued three or four days before the operation. If necessary, it may be continued a day or two after the operation, very safely when indicated.

Surgeons see many cases of marked and long standing hyperthyroidism, when it would seem that these patients can never be brought into a good risk for operation. We have not hesitated to operate upon these patients after they have a good course of immediate pre-operative treatment. It is surprising how completely these patients will recover after thyroidectomy. The important factor to determine is the one of hyperthyroidism. We have not refused a single bad risk in four years, although a number of patients have died during the pre-operative stage.

OPERATION

The type of operation will depend, of course, upon the condition of the patient, and also upon the experience of the surgeon and his assistants with the skilled anesthetist as a vital factor.

Confidence must be established with the patient that he can safely survive the operation. Patients whose nervous condition does not permit them to eat and sleep well are not fit for any stage operation, but should have a longer period of rest and medical treatment. We advise that the cases with marked hyperthyroidism have their operations as early in the morning as is possible, so that the patient will not have to wait hours in expectancy. It may not be as much of a factor as we believe it to be, but we do feel that it is another factor of safety to have the serious thyroid operations boarded early in the morning. If during the operation, condition of the patient seems to be unsatisfactory it

may be best to stop the operation at any stage, and the operation should be so planned that this can be done. For years we have performed what we choose to call hemi-thyroidectomy, but when the patient's condition is satisfactory, as it usually is, we do both sides at one seance, and attempt to remove each lobe complete and ligate all the vessels, before we even examine the opposite side. The removal of the side which appears to be the easiest first is the best method of procedure, not to specify a certain side. We find it very satisfactory to operate in this way because the trachea is disturbed very little, whereas in goiter operations if the forceps on one side are left on, one of them might slip during the dissection of the opposite side, and forceps are mechanically in the way of the operation. We have not found it necessary to perform ligation as a preliminary operation in over three years.

ANESTHETIC

We realize that these operations can be performed with local anesthesia. However, we prefer to use gas analgesia with local in all cases of marked hyperthyroidism. In the retro-sternal types associated with high blood pressure we give then the smallest amount of gas-oxygen induction, and then nearly all the operation with local anesthesia. We think this form of anesthesia is a marked improvement over any kind for these cases. In recurrent cases having had one or two operations previously, we find the operation at times extremely difficult, and plans should be made to have skilled assistants and carefully picked instruments, including a tracheotomy tube, which we believe, if held in readiness, is seldom required, but if ready there will be fewer disasters.

The operating field must always be dry and forceps are not put on any tissue without due consideration of the danger of injury to the recurrent nerve and parathyroids. Forceps should be small and it is important that the exposure be ample.

We prefer to have patients in as nearly a sitting position as possible on a well padded table, so they may be as comfortable as possible, and it is quite important that this comfortable position, allowing them to breathe easily, be arranged before beginning any anesthetic.

POST-OPERATIVE TREATMENT

We believe that Lugols solution is of the same value immediately following the operation to prevent the post-operative hyperthyroidism, as it is in getting the patient in good condition preceding the operation.

In all severe cases of hyperthyroidism it is our practice to give Lugols by hypodermoclysis, the amount of Lugols given ranging from 15 mms. to 60 mmc. given in 1,000 c.c.'s of saline. Of this we used about 100 c.c.'s an hour. The needles are inserted in the operating room, well in the pectoral muscles and not in the breasts; this is continued as long as it seems necessary. Usually about 2,000 c.c.'s of saline with Lugols is given. With patients who are very highly toxic, we continue the solution longer. In very nervous patients novocaine may be added to the saline, using one-half ounce of 1 per cent solution to each 1,000 c.c.'s of saline. We believe this to be safer than to depend upon rectal drip in these seriously ill patients. In addition to this we give large quantities of water. Ice water is especially desirable, also Lugols, 10 mms. to 15 mms. in grape juice every four hours by mouth. Lugols solution in the ordinary cases is reduced after two or three days, as a rule, to 5 mms. three times a day, depending upon the apparent need.

We make a practice of doing rather radical operations, that is, removal of nearly all of the diseased gland. Patients do not apparently need Lugols, excepting for a short period after the operation. As a rule, most patients have small doses of Lugols, usually not more than 5 mms. daily for a period of a month, and then ought to be under observation of their physician every two or three months for a period of two or three years. We believe most cases that can have the radical operation, that do not entirely recover from hyperthyroidism, are found to have enlarged nodules, and that an insufficient amount of thyroid tissue was removed at the primary operation. When the patients' symptoms of hyperthyroidism continue clinically with check up and basal metabolic rate, we continue larger doses of Lugols solution for a period of two or three months, and then advise a second operation unless they are symptom free. We find at times it will be necessary to give small doses of thyroid extract in patients who gain greatly in weight. When thyroid extract is given, patients should be under close observation.

Luminol grains, ½ to 1 every four to six hours, is often used, and it seems to act especially well in cases of hyperthyroidism, with, as far as we know, no bda effects.

Morphine is freely used for the first 24 to 36 hours as necessary, with ice bags over the precordial and to the head.

In all cases seriously ill, with large adenomata which occupy a position bellow the clavicle, a small rubber tissue, as well as a gauze pack, is inserted for drainage, which is usually removed in from 24 to 36 hours.

It is highly desirable to use a drain in all cases of patients over fifty years old, with moderate hyperthyroidism, but do not feel that it is necessary to drain cases of moderate severity in younger patients.

Dressings are usually changed the day following the operation, as patients are made more comfortable. We have been surprised with the often miraculous improvement in patients in a few days after operation after having the neutralization with Lugols solution. It has been shown by many observers, also observed in our clinic, that there is a marked colloid change in the goiter, following the administration of Lugols solution, but we could hardly expect the formation of colloid to explain the rapid improvement in the very severe types, many delirious, with high temperature and vomiting, which improve so markedly after a large dose or two of Lugols solution. It would seem, therefore, that the Lugols solution neutralizes the thyroxin and gives us this important effect.

RECURRENCE

As stated above, we believe that a certain number of recurrences are due to the fact that not enough thyroid tissue was removed, and there seem to be cases who rapidly develop hyperthyroidism even after a course of Lugols and rest and a very radical operation. They make an apparently complete recovery, then in two or three months have a recurrence of the symptoms, usually a palpable nodule can be found. Formerly we left a larger piece of the upper pole than we do at the present time. We have come to believe that it is better to perform a very radical operation and leave very little of the upper pole and only a small piece of thyroid tissue in the posterior capsule and thereby avoid recurrences. There is strong evidence that the ligation or destruction of the sympathetic nerve fibres which run along the superior thyroid vessels have to do with the exophthalmus. In a case where we had performed a very radical operation for a severe exophthalmic goiter, the symptoms were all relieved, except that the exophthalmus became worse, and persisted until we performed a superior cervical sympathectomy. When recurrences do occur, we believe that after a few weeks of medical treatment, usually about the same as that prior to operation, rest, carefully given Lugols solution, that if patients do not improve they ought to have a second operation, and the sooner this is performed the better.

Repeated metabolic tests should be made in these cases, as an aid in diagnosis.

We believe that by the careful use of all known methods of surgery applied to the sick cases of hyperthyroidism, that the mortality has been greatly lessened in the last ten years, and the morbidity has decreased also in a corresponding ratio. It seems to us that the main reason patients do not recover as well as they should following operations for hyperthyroidism is the fact that the disease was of too long standing before the operation was performed, and they had degenerative lesions of the essential organs. The best results will be obtained in early radical operations after an early diagnosis, and not too prolonged medical treatment.

RESUME OF LAST 100 CASES OF HYPERTHYROIDISM

Males	11	
Females	89	
Average age	40	years
Youngest	12	years
Oldest	75	years
Average days in hospital before operation	2	
Shortest	1	day
Longest	14	days
Average days in hospital after operation	8	
Shortest	4	days
Longest	57	days
Average Duration of Symptoms	2	yrs. 6 mos.
Adenoma with hyperthyroidism	63	cases
Primary exophthalmic goiter	37	cases
Recurrent	7	cases
T. B. of lungs	2	cases
Post-Operative Complications:—		
P. O. hemorrhage	1	case
P. P. tetany	1	case
Died	2	cases
Interthoracic goiter, 1st day, cardiac	1	case
5th day, cardiac	1	case

DISCUSSION

Dr. Richard Smith (Grand Rapids): This is a subject of course that must interest every surgeon who has to do with these cases. If he expects to have results he must give a lot of time and pay a lot of attention to the preliminary study of his patient and in preparing him for operation. It is not like a fibroid case where you can make an estimate very quickly, usually. These cases must be studied individually and with great care.

Probably one great factor in safety with the patient today is that he is given a period of rest before operation, with Lugol's, and during that period the surgeon has a better chance to become acquainted with him.

It seems to me we must make an estimate of two factors in our patient: First, that of increased excitability, and, secondly, that of the heart condition. That is one of the minor factors, but they are the things I want to speak of.

Without going into the classification of goiters at all, as toxic goiters present themselves to us we recognize those patients with an immense amount of increased excitability, the heart condition not being so serious, or very slightly serious, and, on the other hand, those with very little increased excitability and with a heart condition which is of very vast importance.

In the handling of those with much increased excitability we have estimated the behavior of the patient by the rapidity of the heart and the metabolic rate. But there is also another factor that I want to speak of, and that is the matter of time that the disease has existed. We have found a greater difficulty in making a proper estimate in patients whose period of toxicity has been a short one than in those that have continued perhaps over a year, two years or more. They seem to have settled down into a certain amount of compensation or something. At any rate there is a certain amount of stability about it that enables us to make a much better estimate. Those who come in with a history of one or two months are apt to form a source of surprise. We have had at least one unfortunate outcome in apparently a very mild case. There is always that thing in every one of these cases, an element in this matter of response to operation which nobody seems to be able to exactly estimate and which leads to conservatism when it comes to the surgical work.

On the other hand, we have those with the marked heart symptoms in whom the excitability is very small. We are very apt to keep those patients in bed much longer than the ten days or two weeks which we ordinarily would employ. It is not unusual to have them in bed six weeks or even longer before the operation, and in such cases we do not start the Lugol's at once, but start the bed rest, perhaps with digitalis, which we have found of some value in just that type. Then toward the end we give the Lugol's and go on with the operation.

As regards the matter of operation, if I understood Dr. Brooks right, he said that he did not employ the partial removal of the gland any more, that is the removal of the whole gland in the vast majority of cases, at least. Our experience has been quite to the contrary. I think we do more of the partial removal of the gland and do the whole removal of the gland in two stages than we formerly did. I believe that is a matter of safety to the patient. We can take some very bad cases, remove one side, and with very little reaction, certainly nothing that would cause any great concern. You may lose that patient if you remove both sides. A little later on, four weeks or six weeks afterward, removal of the other side is made a mere detail. The patient is so much better, and it can be removed in almost a minor operation. I have been very much prone to follow this procedure all the time. To be sure, in the vast majority of such cases you can remove both sides. I believe every now and then you will save a patient that you would otherwise lose if you took out the whole gland.

We gave up ligation and used Lugol's, and I thought I was never going to employ it again, but I have found that here and there, there is just a situation in which ligation fits and is of great use, so I do not think it should be entirely discarded. (Applause)

Dr. J. G. Manwaring (Flint): I was struck, while Dr. Brooks was reciting in his characteristic way his experiences with goiter, with the fact that things are so uniform with most surgeons so far as the treatment of these thyroid cases is concerned. It may differ as to classification, as to etiology, and so forth. It seems to me there is no particular field in surgery which has developed so rapidly. General surgeons have generally commenced operating goiters, we will say, in the last fifteen or twenty years, so they have become a large part of one's surgical practice. In that comparatively short time, especially in the last five years, they have come to do things pretty much alike. There is no particular difference of opinion in most of the proposition; there may be some minor points of difference.

It seems to me there is nothing to discuss in great part. Dr. Smith brought up the removal of only one part at a time. There are very few people that we have to turn down. The disease is a progressive one, but there are certain people who get pretty old, and that makes you hesitate. I have operated them as old as eighty years of age and had very good results. We do not expect to return them to normal but we can stay the process.

I had a patient before I came here that I had had under treatemnt for some time in the hospital. I told her I did not think she was a case suitable for operation. It is an old thyroid that is calcareous. She has a heart that does not respond; it is very irregular, and the case does not improve in any way, so I think it is not a case for operation. She is seventy-three. Outside of those particular cases, I think it is in the senile type that the one-sided operation is of great advantage. These folks do not stand operation. If they have sputum that gathers there that is going to bother them. You can operate those people in two stages with comparative safety.

I want to mention that I tell the people to whom you apply the therapeutic measure to go right on the same as they have been doing. I do not have them rest. If they improve markedly, I strongly expect there may be a toxic condition of the thyroid. I feel in those cases that there are other things that have been straightened out. I still feel, and I suppose many do, that in certain types of what the doctor calls the primary type, the thing is due to some nervous strain. There is a vicious circle started. The patient becomes anxious about something, and the thyroid responds too much to that fear or anxiety with an excessive secretion, possibly an abnormal secretion. This sensitizes them, makes them more emotional, more sensitive, so that their anxiety is more easily aroused, and they still stimulate their thyroid to greater secretions.

You can interrupt that vicious circle in a number of ways. As I once said and got in bad, you can dispose of the husband if you want to; that may remove the source of anxiety. Or you can take out the thyroid gland. But in these people who respond, it seems to me there has been a readjustment. It is a very lengthy and difficult process to try to find the causes of anxiety, sometimes, but they do stay well. When you see them months or years afterward, they are still well, and you feel very sure that they had a hyperthyroid condition. You may have simply interrupted that circle in that you have restored, for the time being, the thyroid secretion possibly to

normal. The cause of anxiety having been removed earlier, they become normal. (Applause)

Dr. Frederick Collar (Ann Arbor): I quite agree that there has been very little left to say on this subject. There are two points, however, that are old ones, and I do think they should be mentioned. The mortality in these cases will depend, I think, upon two factors. Technic has been largely standardized, as has been said, and of course any of you may have an operative death, and all of us will if we keep on doing cases long enough, but those have been largely obviated. The cases that we have fall into two groups. The difficult cases are, first, the adenomatous goiter that has been neglected. I think all of us will agree that when an adenoma is once formed, no form of treatment, X-ray, medicine, or anything short of surgery, will rid that patient of that adenoma. I have never seen an adenoma caused to disappear by any means short of surgery after the patient is twenty-five years of age. I find that a great many men who do not believe in operation, or if they do believe in operation believe it to be a very hazardous procedure, will say to this patient, a woman of thirty or thirty-five, apparently otherwise normal but with an adenoma, "Your basal metabolic rate is normal, therefore let this adenoma alone. Some time it may cause you a lot of trouble, but you are all right now, so let us wait until your heart is gone, let us wait until your basal metabolic rate is high, and then we will operate upon you." I think that prophylactic surgery will obviate all of these bad risks that have been talked about this morning. I think we should stand by the doctrine that all adenomas in people of thirty or I will put it even twenty-five or older should be removed on diagnosis. That will remove this group of bad risks that have been discussed this morning, and, as I quite agree with Dr. Brooks, most of the mortality occurs in this group. It is just the group Dr. Smith is talking about. That is the end picture.

The second group that we find hard to manage are the cases of exophthalmic goiter that have been badly treated by the over-use of iodine. I am glad that that point has been emphasized this morning. I think rest in bed is very important for these people. I do not use the iodine until I plan to operate within seven or eight days. If I want to have them rest in bed for a month, I do not start the iodine, unless they are in crisis, of course. I think nothing will replace rest in bed. Iodine as used in the treatment of exophthalmic goiter is only a pre-operative and post-operative measure. The operation must be used in those cases that have become iodine-resistant because of the over-use of Lugols solution. I had a man a few days ago who had had forty-five drops of Lugols solution for four months. He had had his remissions and exacerbations, and the iodine does not touch him. Those two controllable points will remove most of the bad risks from the field of surgery.

One other point that has interested me very much in the last year especially is that if you will have basal metabolic rates done on many of your patients a year or two or three years afterward, you will find that a lot of them (this applies to both groups) are running a little under normal; their rate will be —15, —18, —20. Otherwise they are well, but they still have not that sense of well being, and, of course, the obvious treatment is thyroid. I do not believe anybody can tell the exact amount of thyroid to leave, which is the important thing. The amount that you remove is not important, but the amount you leave is important in any given case. All of us will have a certain small per cent, especially in the adenomas where you are bound to remove all of the adenomatous tissue, of cases such as I have described, and I think that per cent is larger than most of us appreciate. I beg all the patients on whom I do thyroidectomies to see me at intervals. I get basal metabolic rates, and it restores them to a more perfect normal (if there can be such a thing) by giving them a little thyroid extract.

Again, I want to express my appreciation of this very able paper. (Applause)

Dr. C .D. Brooks (Closing discussion): I have nothing to say except that I am very grateful to the Section and to those who have discussed the paper.

ELECTORSURGERY GREAT BOON IN TREATING CANCER

That new and novel adjunct to the surgeon's knife, electrosurgery, finds its greatest usefulness in the treatment of cancer, Dr. Howard A. Kelly, emeritus professor of gynecology and obstetrics in the Johns Hopkins University, told members of the Southern Surgical Association at their meeting at Atlanta, Georgia. "The most important field for this novel agent lies in the realm of malignant growths and the various tumors," Dr. Kelly said.

This new method is not to be mistaken for merely a more convenient form of cautery, but is a specialty which must be learned with painstaking care, Dr. Kelly emphasized. He urged that the new procedure be given more attention in the big hospitals of the country, and that the younger generation of surgeons be given opportunities to test it out.

One very important advantage of electrosurgery is that it controls hemorrhage easily without the need of tying off each vein and artery, which must be done at each step of other surgical operations.

"In deep operations by older methods the surgeon often loses precious minutes in his efforts to check a severe hemorrhage and feels as well estopped from going further in that direction," explained Dr. Kelly. With electrosurgery the lymphatics and smaller blood vessels are sealed with the progress of the operation.

"It sterilizes the parts attacked, destroying all bacteria and septic tissues as well as the malignant cells to which the growth owes its specific character and continuance," said Dr. Kelly in outlining the advantages of the method. "There is further no handling and squeezing of the tissues, a great boon in any aggressive treatment of malignancy, avoiding the further distribution of the cells.

"One might also well call it a knife and fork operation as the handling of the parts is limited to the slight sterilizing touch of the simple instruments used, avoiding even the gloved fingers of the surgeon.

"An immense advantage lies in the greatly enhanced facility in operating in areas awkward or difficult of access as in the nose and throat."

Dr. Kelly described the method in some detail and added that it is even valuable, in some types of cases, when radium cannot be used any longer. —Science Service.

COMMUNITY HOSPITALS

SOME PROBLEMS WORTHY OF CONSIDERATION IN THEIR ORGANIZATION AND MANAGEMENT*

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We have been particularly impressed with the fact that many hospitals of the community type of from twenty-five to seventy-five bed capacity, have been apparently organized and started in operation without first securing information which would seem to be essential to a proper consideration of the many problems involved. In this article we hope to present some of the information which we believe to be useful and which should be given consideration in formulating the by-laws, rules and regulations of a newly organized hospital that efficient service and good results may be assured to patients.

Hospitals, located in the smaller cities and serving the surrounding communities, have many problems peculiar to themselves, and the solution of the problem of giving efficient care to the sick has certain difficulties not encountered, or at least not to the same degree, by hospitals in large cities. A considerable amount of the major work of the community hospital is being done by physicians and surgeons engaged in general practice where they are compelled at times to come into intimate contact with both infectious and contagious disease. Many of them have had little special training to prepare them to do such important work with a reasonable degree of safety and to meet the problem of guarding their patients from the various dangers incident to disease and treatment. The greatest of these dangers is infection, so easily spread, when attention is not given to the many details necessary for its prevention.

The practice of competitive medicine instead of co-operative medicine is another problem worthy of consideration. Lack of efficient organization is oftentimes a fundamental cause of unsatisfactory service and results.

We realize that in many small hospitals, where the average results are not first class, individual surgeons and physicians were and are doing good work and securing the best results. This is largely brought about by good training in the specialties practiced, a full comprehension of the problems involved, and high personal and professional standards on the part of these individuals.

We have for many years been interested in the problem of efficient hospital service for patients, especially in the smaller cities, as we practise in one. We have, whenever possible, visited hospitals so situated and made such investigation as opportunity permitted as to this problem.

We became still more interested in this subject when requested, about two years ago, to assist on the Committee on Organization of the Clinton Memorial Hospital located in St. Johns, Michigan, a city of about four thousand population. This is a fifty-two bed hospital which was erected, dedicated, and opened for patients in 1927.

After carefully studying the helpful literature received from the Director of Hospital Activities of the American College of Surgeons and from the National Hospital Association, the fundamental plans of organization and the by-laws were formulated and after being submitted to the Director and receiving approval, were adopted by the Board of Trustees.

In preparing the rules and regulations to harmonize with the Minimum Standard of the American College of Surgeons and the by-laws already adopted, we found it necessary to make a further study of the details of hospital administration. In this we gave special attention to the scientific and medical services offered by hospitals to patients and doctors.

We obtained interesting information as to these problems from: (1) Our study of the literature along this line; (2) an analysis of our own experience of over thirty years in surgery and obstetrics, the last fifteen being in St. Johns Hospital—a private institution devoted exclusively to surgery and obstetrics—where we treated over four thousand patients surgically. Here we had an opportunity to study

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each case, making a complete investigation of every complication, also every death as to cause and prevention; (3) data secured from hospital and government reports; (4) personal interviews with members of staffs and other interested persons; (5) reading articles and hearing discussions along this line.

As patients expect and should receive better results from treatment in hospitals than in homes, it seems to us that there are five important problems in results that deserve primary consideration. (a) Percentage of surgical mortality; (b) percentage of medical mortality; (c) percentage of maternal deaths; (d) percentage of post-operative infections; (e) number of days of average hospital stay.

In efficiently organized hospitals this is believed to be, in the present state of scientific knowledge. (1) One per cent or less of surgical mortality; (2) five per cent or less of medical mortality; (3) one-half of one per cent or less of maternal mortality; (4) one per cent or less of post-operative infections; (5) twelve days of average hospital stay.

An attempt to solve these problems in the interest of patients so far as they can be solved by rules and regulations, opened up an interesting field of investigation. We found that the majority of hospital reports gave but little information as to these five important points. We, therefore, have reviewed carefully our own records for the past fifteen years and have used these findings, at least in part, as a basis in our effort to formulate such rules and regulations as would assure efficient care and results for patients in our new hospital.

Our mortality in slightly over four thousand surgical operations was one and seventeen hundredths per cent, or forty-seven. The percentages of this number as to causes were as follows: Twenty-five per cent were due to pre-operative infection; seventeen per cent were due to post-operative infection; fifteen per cent to shock or vaso-motor failure; four per cent to pneumonia; four per cent to eclampsia; two per cent to hemorrhage distant from site of operation; two per cent to acidosis; eleven per cent to cardio-vascular diseases which were terminal conditions; nine per cent to inoperable conditions (malignancy); six per cent to toxemia from delayed operation in acute intestinal obstruction; four per cent to fatal injury. Undoubtedly some of these classed under other causes might have had infection as a complication. It is our opinion that at least twenty-five per cent or more of our mortality was due to preventable causes.

As our hospital obstetric cases were too few in number, being less than five hundred with a mortality of two—both from eclampsia, dying within six hours of admission—we could draw no conclusions from them. We have, therefore, taken the U. S. Government Reports on maternal mortality as the basis of our study of this problem. In 1921 there were over fifteen thousand deaths from puerperal causes in the United States. Approximately forty per cent were caused by septicemia; twenty-six per cent by albuminuria and convulsions; ten per cent by puerperal hemorrhage; ten per cent by other accidents of labor, such as Cesarean section or instrumental deliveries, and fourteen per cent by all other causes. In 1925 there were twenty thousand mothers lost from approximately the same percentage of causes. There were seven mothers died to every one thousand births. In Michigan there was during 1925 one mother lost to every one hundred fifty-seven children born. A careful study of hospital reports and other statistics led us to the conclusion that approximately one mother is lost to every ninety children born in homes and one to every one hundred eighty-five born in hospitals.

Infection seems to be the cause of the largest percentage of mortality in both surgery and obstetrics. Infection does not occur under modern conditions without a cause and too often results in death; therefore, both the causes and results of this complication become matters of considerable interest in relation to hospital organization.

A review of our own experience and investigation along this line led us to the conclusion that the following are the most important causes of infection in clean surgical and obstetrical cases: (1) Improperly prepared ligatures; (2) inefficient sterilization of dressings, gowns, etc.; (3) failure to properly prepare the patient; (4) careless and inefficient scrubbing and sterilization on the part of the surgeon and his assistants, including nurses; (5) failure to maintain strict asepsis, such as touching unsterile articles; (6) carrying infection to patients although wearing sterile gowns, gloves, cap and mask, when those in attendance have lately come in close contact with dangerously infectious diseases or have handled minor infections without due precautions; (7) allowing people, including physicians, who have

been recently exposed to such diseases, to come into the operating and delivery department and by coming into contact with various articles, infect the rooms and their contents; (8) the spread of infection from patient to patient when necessary precautions are neglected; (9) infection in or on the person of those in attendance, such as infected throats, eruptions on the skin, etc.; (10) infection from the air, especially in the presence of lowered resistance or traumatism of the tissues; (11) infection in or on the body of the patient.

Infection from catgut ligatures may occur but many infections which have been laid to catgut are really often due, as Dr. De Lee remarked at a meeting of the Chicago Gynecological Society on April 21, 1922, to bacteria passing through the meshes of gowns, towels, or sheets when the clothing or table underneath is infected. We have found that infection may spread from patient to patient when precautions are not taken. Doctors and nurses who have sore throats, colds, or other infectious diseases should not attend surgical or obstetrical patients.

In our experience in surgery at the St. Johns Hospital up to 1918 when our rules as to attendance upon infectious and contagious diseases when engaged in surgery were less rigid, our post-operative infections varied from two to six per cent but during the next nine years when the ruling was that those attending such diseases were excluded from surgery, the average was less than one per cent. More careful preparation of patients, improvement in ligatures, more efficient sterilization with constant testing of sterilizers and in general improved asepsis, no doubt accounted for a part of the diminished infection but we believe that a considerable part of it was the result of the above mentioned rule.

The relationship of the percentage of infection to the mortality rate and the days of confinement in the hospital is of interest. In our experience we have found that over seventy-five per cent of surgical and obstetrical patients who became infected with streptococcus bacteria died and at least ten per cent of those who became infected with staphylococcus or colon bacillus died. Such patients, when no infection occurs, are confined to the hospital on an average of twelve days and when infection occurs, from fifteen to forty days.

We have found from experience that the following of the more frequent infectious diseases are particularly dangerous to surgical and obstetrical patients: (a) All streptococcus infections such as erysipelas, septicemia, scarlet fever, puerperal fever, streptococcus sore throat, etc.; (b) gas bacillus; (c) tetanus bacillus; (d) diphtheria; (e) smallpox.

We cannot escape the conclusion that physicians and surgeons when attending these diseases should be prohibited by the rules of the hospital from attending surgical or obstetrical patients. All persons exposed to them, should be prohibited from going into the surgical and obstetrical departments.

The following infectious and contagious diseases are dangerous to surgical and obstetrical patients when precautions are not taken to prevent carrying them: (1) All staphylococcus infections such as boils, abscesses, carbuncles, felons, infected wounds, etc.; (2) colon bacillus; (3) Vincent's Angina; (4) tuberculosis; (5) pneumonia; (6) tonsillitis. Our conclusions are that if gown and gloves are worn while treating these diseases it is fairly safe to attend surgical and obstetrical patients, although it is much safer to delegate the treatment of such infections to those not working in surgery and obstetrics.

Experience has shown that attention to these matters has resulted in a considerable reduction in the number of post-operative and obstetrical infections. We believe, therefore, that these conclusions, based on experience, are worthy of careful consideration on the part of those engaged in hospital organization and operation. Dr. C. H. Mayo remarked at a staff meeting of the Mayo Clinic on September 28, 1927: "One subject constantly studied at this Clinic is infection, the cause of death in eighty-seven per cent of cases." While he referred no doubt to not only post-operative infections but also to those already present, to those in distant parts and chronic infections, still this remark by a thoughtful and distinguished man of vast experience, demonstrates the importance of the subject.

The problem of what can be done to decrease maternal mortality has been given much study and our conclusions, based on our experience in several thousand confinements, investigation of the experience of many others and all authorities at our command, are that in each thousand births: (1) Pelvic measurements of all primipara may save one mother; (2) prenatal care in other ways may save one more mother; (3) prevention of infection may save four more; (4) skillful obstet-

rical and nursing care may save two mothers, and but one to each thousand is lost from causes beyond human control.

To even approach this ideal result in communities with hospital facilities would require a vast amount of education of both the profession and the public. It would also require the solving of many social and economic problems, but the effort would be worth while even for partial results.

In investigating the causes of apparently mysterious outbreaks of infections in hospitals, many times no satisfactory explanation of its causes could be secured from official sources. However, from other sources, it was learned that doctors while doing surgery or attending confinement were at the same time in daily attendance upon such diseases as erysipelas without any evidence of precautions being taken to prevent carrying infection.

While we have for many years worn rubber gloves while engaged in surgery or obstetrics, we became convinced some years ago that gloves would not always protect from streptococcus and other like infections. Gloves may be torn or punctured and many thing may happen that allow contamination to take place. We believe as the late Dr. A. J. Oschner, of beloved memory taught, that it would be safer to operate with naked hands, thoroughly cleaned, that had not come in contact with infection, than with gloved hands that had been lately handling infections and were therefore probably infected although thoroughly washed.

For over twenty years we have made it a rule of our practice not to attend obstetrical patients when in attendance upon scarlet fever, erysipelas, and septicemia; and as a result—at least partly—of this rule our infections in obstetrics have been less than one-half of one per cent.

We have observed that in various hospitals where this rule is strictly observed, either because of the rules of the hospital or because of the personal belief of the staff members, the percentage of postoperative and obstetric infections was very small. We have also observed that in the type of institution under consideration, where this matter was ignored, the percentage of infections in such cases was much larger.

Our investigation has confirmed our previous opinion that surgeons and obstetricians should use the greatest possible care in handling infections; indeed, they should abstain as much as possible from coming into contact with them. Only when this matter is given due consideration can the best results be expected.

We have not had an opportunity to investigate to any great extent the problem of medical mortality and other results in hospitals. We did observe, however, that wherever the results in surgery and obstetrics were good, the results in medicine were above the average.

In hospital organization and operation, if the best results are to be realized, there should be a subordination of personal consideration to the welfare of the sick and of all theoretical considerations, such as schools of treatment, to the application of scientific knowledge and medicine in the relief and cure of disease. It should be the aim of every hospital, however small the community in which it is situated, to secure the best possible results for patients at least in relation to the five aforementioned points.

Experience has shown that with few exceptions, the requirements by which this desirable result can be secured are: (1) That the equipment be maintained to the standard required by the committee on Hospital Activities; (2) that the Minimum Standard of the American College of Surgeons be adopted and strictly observed; (3) that the scientific and professional service of the hospital be directed and supervised by competent medical graduates; (4) that the major surgical specialties be restricted to those having a reasonable degree of post-graduate training and experience; (5) that there be such restrictions upon those engaged in surgery and obstetrics as to guard patients from the dangers of infection acquired in this manner.

Consideration should be given to each of these requirements, in the organization of a hospital, in formulating the by-laws to govern it and in making the rules and regulations to carry out in detail the by-laws. Consideration should also be given to all information that can be secured to the end that the interest of the patients be conserved to the highest possible degree.

Undoubtedly the largest single factor in the improvement of the results secured in hospital work during the past ten years has been the inspection and, whenever possible, the approval of hospitals by the Committee on Hospital Activities of the American College of Surgeons.

The adoption of the minimum standard and the effort to organize, equip, and work according to this standard has resulted in: (1) Better equipment; (2) the placing of

the scientific and professional service more generally under the supervision of medical graduates; (3) a better co-operation in the tracing out of the causes of poor results and the correction of conditions leading to failure; (4) a better application of the known facts of scientific medicine to the relief of suffering and the cure of disease, and generally better hospital service for patients.

Efficient organization is a fundamental necessity that satisfactory results for patients be assured. If the interests of patients are to receive first consideration, the practice of co-operative medicine should replace the practice of competitive medicine, at least in a hospital, that our ideal may be realized to a greater degree.

At the end of the first year we were pleased to find that in going over the records of Clinton Memorial Hospital there had been but one case of post-operative infection among the five hundred and ninety-three surgical patients. The average hospital stay in major surgical cases was approximately twelve days and there were no maternal deaths or serious complications.

Although our laboratories are not yet fully equipped and there have been some defects in management and service incident to new institutions, we feel a degree of satisfaction with the results so far. We hope for continued improvement in hospital service to the end that those trusting themselves to this institution may ever receive the best possible chance for relief and cure.

I am happy to be able to state that the utmost harmony has prevailed among the members of our staff. At the first meeting we adopted as a motto for the hospital and its staff the words of the late Sir William Osler who says that an ideal of his life has been to "act the Golden Rule so far as in me lay, toward my professional brethren and toward the patients committed to my care."

To our endeavor to live up to the spirit of this motto we attribute in a considerable degree, the harmony which has made our meetings a source of pleasure as well as profit to us all.

CONCLUSIONS

1. Preliminary to organization, a careful study of all information that can be secured should be made and the advice of experienced hospital authorities sought, that errors due to inexperience in operating a hospital may be avoided.

2. The interest of patients should receive first consideration in the organization and management of a hospital. There should be a subordination of all personal and other interests that harmony may prevail and patients be assured of first consideration.

3. By-laws, rules, and regulations should be formulated with a view of assuring, so far as such can be assured by organization, the lowest possible mortality and the shortest possible average days of hospital stay.

4. The best service can only be assured by an earnest effort on the part of the medical and nursing staffs, boards of control, and all others interested in living up to the principle of the Golden Rule.

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DISCUSSION

Dr. I. W. Greene (Owosso): I don't feel that the problems of a community hospital are exclusively those of surgery. I think our hospital in Owosso is perhaps one of the pioneers among community hospitals, and we feel rather proud of the institution. I feel that this question of community hospitals is extremely important and that it is one of the things which is going to help solve the problems of rural medicine. It is extremely difficult, as we all know, to get the young men to come out in the country to practice. They have put in six or seven or eight or ten years of training, and they are reluctant to go "out in the sticks," as they said last night, and practice without the facilities to which they have been trained. If they can get to a hospital within a reasonable number of miles, to which to take their patients and have them taken care of, they are much more inclined to do it.

I think the problems in the community hospital itself are quite different from those that we face in the larger city hospitals. In the first place, the majority of the men in the community have not been trained in hospital work; they are largely older men who perhaps graduated when the training was shorter. They don't take real kindly to all the routine and technic of a hospital, and it takes some training and some encouragement to bring them into line. Unless you can have the entire staff of the county or the city where this hospital is located working for you, your hospital is going to fail.

The first thing that you have to do is to get your doctors "hospital conscious," and you have to get your community "hospital conscious," too. When our hospital was built about eight years ago, the community was inclined to think it was ridiculous to put up a sixty-bed hospital, but we rapidly outgrew that, and we now have a 100-

bed hospital, with physical assets of about a half million dollars, and we are using all of them all the time.

These community hospitals, like others, are liable to become topheavy on the surgical side, and I think that is one error that they must not fall into. From my viewpoint as an internist, I am not entirely sure that this question of infection is the most serious problem that we have to deal with or is the entire cause of some of our unsatisfactory results. I feel to get good results you have to have good co-operation between your surgical side and your medical side and that your medical staff must be built up as well as your surgical staff.

In our hospital, it is almost a universal rule that all surgical patients will be seen by somebody on the medical staff, they will be given a physical examination, and all the heavy work, such as thyroid, stomach cases, prostate cases, and so on, will be turned over to the internists to be got ready for the operation, and when the internist says they are in suitable condition to be operated, then the surgeon goes ahead.

I think that hasty surgery in those cases is sometimes a very serious thing. Very often we pick up a patient with a cold, with a sore throat, with some tuberculosis, or something of that sort which would have given a very nasty result had the patient been operated, and it would not have been a credit to the surgeon.

The older men in the community, the men who are well trained in surgery or medicine, have got to make it part of their job to train younger men to take their places; they have got to insist that the younger men be trained before they do this work. We may not find in each community men who are capable of handling all the different specialties, but we must encourage other young men to come in who have been trained, or we must encourage the younger men of the community to go away and get sufficient training.

I enjoyed Dr. Hart's paper very much. He has a very fine institution over there, and it is a real credit to the community. I think in any place where you find a successful community hospital, you will find men like the Doctors Hart or someone who has a great deal of enthusiasm, willing to sacrifice themselves personally to put the matter across.

Dr. George C. Hafford (Albion): Dr. Hart has given us a lot of rules and axioms for small hospitals which apply equally well to large hospitals. The younger physicians don't realize the conditions that existed in the older days when we had to operate sometimes by kerosene lamp, on intussusception, or some other severe condition. I never go to the hospital without feeling thankful that I am able to practice with the present improved conditions.

After we get these hospitals, the next thing is to get the people educated to use the hospitals. That is coming. Nowadays a patient often asks me himself whether he wouldn't do better if he were in a hospital, and I am always glad to get a patent in that frame of mind. Dr. Hart must have done something along that line, because he took my nextdoor neighbor right away from me and took him fifty or sixty miles and operated on him.

Dr. J. G. Manwaring (Flint): I haven't anything particular to say. I suppose we have grown out of the community hospital size. Our hospital started with sixty beds and has over 300 at the present time. We have a staff of over 100 men. We did have some experience in community hospital work. In the smaller communities, it has been my observation that if the community hospital is successful, it is due to one man. There is always some inspired man who organizes and runs it. Co-operative institutions in the small places are not so successful. Many of them have started and failed. Many of them have been built around some one man and have failed after he has gone because there has been no one to carry on.

There is an economic side to this. I sometimes question the idea that the hospital is going to be the salvation of the rural communities. There is a great tendency for the patients to go elsewhere, out of their own community, for a great deal of their work. There is not enough left to support a community hospital in the way it should be supported. Lacking leadership to attract patients and keep them there, the community hospital is not so apt to thrive.

The community hospital serves a great purpose, and community hospitals will probably increase in numbers, but not, in my opinion, to the extent that is predicted by others, for the reason that I have given.

One of the great problems now is to find people who are executives, who can administer such an institution. One of the great problems in farming now is due to the fact that farmers cannot manage farms. When they were simple things run by rule of thumb, the boy did as his father did and it was not difficult, but now there are not enough good farmers to manage the farms. You can tell the good and the bad as you drive through the country. In our industries the same thing exists; they cannot find enough men for foremen with the intelligence and the ability to direct other men, to manage the shops. That applies also to physicians. There are not enough good executives to manage these hospitals everywhere, and that is the reason I say so many of these clinics that are formed gradually pass out.

There is more to the rural or community hospital than merely getting a hospital. If it is to be a success you have to get someone who can run it, and that, to my way of thinking, is the biggest problem in connection with it.

Dr. C. S. Gorsline (Battle Creek): It was my pleasure about a year ago to inspect this wonderful new hospital that they have at St. Johns. It is certainly a monument, not only to Dr. Hart and his brother, but to an inspired individual with means who lived there. I inspected this hospital in St. Johns with a view to getting ideas in regard to one which we are about to build in Battle Creek. I have made several trips to various parts of the country, as far west as Los Angeles, and have seen what they thought were models, but I want to tell you that for a hospital of its size I have yet to see one that is as well arranged and as economically planned and built as the one in St. Johns. Of course, Mr. Hicks, who was back of the proposition with the Doctors Hart, as I understand it, sent people all over the country to see new hospitals, and he made particular inquiries as to what they would do differently if they were doing it over again, as well as what they thought of their own peculiar features that were of advantage. It is a very fine hospital, and I would recommend to anyone who has anything to do with building hospitals to take a look at it.

Dr. Joseph Johns (Ionia): We have a community hospital in Ionia that started in 1927. I

practiced there for over nineteen years. Since we did not have any hospital facilities, our cases had to go to St. Johns or Grand Rapids, sometimes on a truck and sometimes anyway patients could be taken.

Due to appendicitis, our mortality was very high, some physicians claim as high as twenty per cent. The injury cases, automobile accidents and the like, we used to take to Grand Rapids or to private homes, and the conditions were very unsatisfactory. We opened up a little community hospital in 1927. The last record showed that we had only one-seventh mortality in appendicitis. They also handled all accident cases, and major surgery was done, the patient kept in the town and operated and a local man took care of the case.

The first year we handled 400 surgical cases alone. The community hospital is not as well equipped as the St. Johns hospital or Grand Rapids, but certainly the mortality has been reduced a great deal by having such a place. We are pretty well fixed, but still the people of the city are not enthusiastic about it. Of course they are gradually coming to recognize the importance of a community hospital. I believe different societies of Ionia have been taking part, and some day we will have a larger place. They are coming to see the value of a community hospital.

Dr. Arthur O. Hart (Closing Discussion): The object of the paper was simply to call attention to a few very important facts in relation, of course, to that kind of work about which I know most. I have visited, within the past two or three years, at least two hospitals in which there were from $75,000 to $250,000 invested, and their plan of organization consisted in hiring a superintendent and a few nurse assistants and putting a medical director of the county society on the staff and saying, "Go to it," with not a rule or a regulation of any sort by which to go.

In one of those to which I returned after a year, I found they had very few cases in the hospital, five or six. It was a thirty-five bed hospital. The rest of the people had gone some place else. They should be all highly organized hospitals with everything that enters into producing good service. There is no reason why hospitals costing from $75,000 to $250,000, with anywhere from twenty to seventy-five beds, should not be just as highly organized according to the needs of the institution. I have seen some very bad results in small hospitals, but it has been largely due to the fact that there were no rules or regulations, no plan of organization, and anybody could do anything they wanted to do. The rules and regulations prepared with the assistance and advice of some of the best hospital authorities in America and submitted with many compliments from men expert in that thing, could be considered almost ideal for that size hospital and have worked very well. We have thought it worth while at least to write a paper presenting some of the facts. Of course, there are many other things that might be said about hospitals in relation to all the different details that have to be provided, both in relation to the community and in relation to the doctor, and especially in relation to the patients, who probably are the most important people who ever go into a hospital, although sometimes other interests apparently dominate. I think it is worth while to give consideration to every factor that may have to do with the true interest of sick folks, and that hospitals should actually be organized and run entirely for the benefit of the sick, with no consideration to other interests, at least with paramount consideration for the interests of the sick. When that is done, I notice in towns and small cities tot which I go where there are hospitals of from twenty-five to seventy-five bed capacity, many of the people go to those hospitals. We have a great majority of the people around our community, probably ninety per cent, go to our hospital, and we get some from other places, of course, and I believe that the proper effort to organize in the interest of the people that are going to be there sick is worth while.

ANOTHER EXPERIMENT IN MIDDLE CLASS MEDICAL CARE

In February, 1930, the trustees of the Massachusetts General Hospital will open a new unit called the Baker Memorial. The Rosenwald Fund Committee has agreed to underwrite one-half of the deficit in operation of this hospital during its first three years up to a maximum of $150,000, with the understanding that the deficit will not exceed $75,000 in any one year. The Baker Memorial has been designed for the care of sick people of moderate means. It is pointed out in the *Massachusetts General Hospital News* that the care of the sick in this unit will include voluntary curtailment of physicians' fees so that those entering the institution will pay a maximum fee of $150 for any illness or operative care and that the maximum fee for uncomplicated obstetric service and hospital care will be $100. Only members of the staff of the Massachusetts General Hospital and of the Massachusetts Charitable Eye and Ear Infirmary and the obstetric staff will be permitted to practice in this institution. This hospital has been definitely planned and constructed, and is to be quite definitely operated, as a middle class institution. The employment of special nurses will be discouraged. Ward maids, nurses' helpers and floor clerks will be utilized so that nurses will devote all their time to actual bedside nursing. A special social service department will control the class of patients to be admitted. The institution will have 333 beds, part of which will be used at first for the interns and the nurses, since special buildings for this purpose have not yet been provided. There are to be eighty-eight beds in single rooms, twenty-four beds in two-bed wards, twenty-eight beds in four-bed wards, and eighteen beds in cubicles. For obstetric patients there will be twelve beds in single rooms, six beds in two-bed wards, and eight beds in four-bed wards. Private rooms will cost $6 a day, cubicle beds $4 a day, and the two-bed and four-bed wards will vary between these figures. Nursing, food and ordinary drugs are included in this price. Special fees will be charged for laboratory work and for roentgen-ray work. It will be interesting to see whether this experiment can operate successfully and pay its own way. It will also be interesting to see whether there is any considerable percentage of the middle class who can save enough money to take care of themselves under these conditions. The fees are not apparently much greater or much less than those charged today in most of the hospitals in the United States.—Jour. A.M.A.

GALLBLADDER DISEASE AS A CAUSE OF DEATH*

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So much has been written and said on the subject of gallbladder disease that it seems trite to choose this subject. It is, however, so common a disease and operations on the gallbladder are so frequently done that it is a timely subject and one which confronts us daily. Furthermore, vital statistics on this subject are surprising to me and seem to be worthy of attention.

The vital statistics of Michigan show that 2075 deaths occurred from all diseases of the liver during the five year period of 1924 to 1928, inclusive. These deaths are listed under two general headings. Under No. 123, entitled "Biliary Calculi," there were 693 deaths during this five-year period and under No. 124, "Other Diseases of the Liver," there were 1,382 deaths during this five year period. Contrasted to this, 31,032 deaths occurred from appendicitis alone in a similar five-year period, 1921 to 1925. This shows a yearly average of only 417 deaths from liver diseases of all kinds against a little over 6,000 deaths yearly from appendicitis.

When we stop to consider that the liver has more functions to perform than any other organ in the body and is one which an animal cannot live without, it makes these comparatively few deaths attributed to the liver unreasonable.

Medical and surgical management of diseases of the liver and gall tract are rather meager, surgery of the gall tract being the only direct and definite therapeutics that we have unless cholagogues are cholagogues and duodenal drainage drains. Further than this, we treat by regulation of diet of both kind and quantity and by reducing or restricting exercise so that in either or both instances,the work of the liver is lessened. Some of us believe that physiotherapy is helpful.

It does not seem likely that medical and surgical management so prevent death in diseases of the liver that in the whole State of Michigan there are only a few more than four hundred deaths a year.

Let us consider briefly some of the various functions and the physiology of this important organ. Through the portal circulation, the gastro-intestinal tract and the spleen have a direct intimacy. This provides for carbohydrate metabolism and the storage of glycogen and for protein metabolism. It also gives the opportunity for the detoxification of many substances which, if liberated into the general circulation, would be poisonous. The liver has a secretory function and also an excretory function. There is a pigment metabolism that takes place in the liver. The liver bears a relationship to coagulation time of the blood. Emotions and shock affect the liver.

From the knowledge of these functions, the various methods have arisen for the determination of liver function, as (1) the excretion of foreign products where dyes are used; (2) tests dependent upon pigment metabolism; (3) carbohydrate tests; (4) disturbed nitrogen metabolism; (5) detoxification; and others.

The relation between the liver and the spleen is of particular interest. When the spleen fails in its function and when, through disease, a larger quantity of blood comes from the spleen to the liver, the burden on the liver is increased. On this account, surgical therapeutics have come into vogue, as splenectomy.

The duodenum and the pancreas have a definite relationship to the liver. MacCarty has referred to the gastro-duodeno-hepatico-pancreatic system.

The opportunities are numerous for diseases of the liver as suggested by these various relationships and burdens. For a recognition of many of the possible disturbances of the liver it requires a more workable clinical understanding than is prevalent today. If the various functional tests were applied, possibly existence of liver disfunction could be identified or suspected sometimes. We seldom offer a diagnosis with reference to the liver other than a gall tract lesion or disease or an abscess or a neoplasm of the liver. In former days we had occasion to speak of the various cirrhoses. Acute yellow atrophy has come into the experience of some. I met one in which leucin and tyrocin crystals were obtained but because the impossible happened and the patient recovered, some may doubt the diagnosis. I knew of another acute yellow atrophy case which

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conformed to convention and died as the consultant, Dr. J. B. Murphy, prognosed. The diagnosis of a third case which was fatal was not proven.

I think we quite readily recognize trauma of the liver. In the case of a middle aged woman who was recently injured in the left side and who is recovering, the blood picture on the 8th day was:

Red blood corpuscles, 2,000,000; white blood corpuscles, 15,000; hemoglobin, 40%; differential polymorphonuclears, 93%; differential lymphocytes, 5%; differential mononuclears, 1%; many microcytes and microblasts.

Clinically and from X-ray it appears that she had fractured ribs with a contused lung and probably contusion of the liver and spleen. The latter part of this diagnosis would have been missed by the clinicians without the blood picture which lead to more detailed scrutiny as to the reasons for it.

Another very important opportunity for gall tract disease is appendicitis and, in my opinion, disease of the appendix is a very common prologue to cholecystitis, through the lymphatics. One of the commonest points of history in cases of suppurative cholecystitis is previous suppurative appendicitis.

Let us turn our attention to some of the diseases or conditions resulting from liver and gall tract disease. As a matter of fact, how often do we recognize the manifestations of disordered function of the liver aside from biliary obstruction or some gross anatomical or histological change? I mean by we, the clinicians. Focal infections are quite generally considered and nephritis, the cardiac lesions, etc., are commonly attributed to cholecystitis. I wonder if death certificates show this when death results from this sequence of disease?

Colitis has been a definite reason for ill health in a number of cases of my knowledge where it was known or was eventually learned that a suppurative cholecystitis had existed for a considerable time previously. It seems natural to infer that colitis in these cases resulted from the infection expelled from the gall tract.

Neuritis, myocitis, arthritis, synovitis, or any other conditions which might come under the general term of rheumatism may result from the focal infection, cholecystitis. Any suppurative disease may result, also.

Any consideration of the mortalities of liver and gall tract disease is not complete without attention to the surgery and methods of surgery in vogue. To illustrate practice in gall bladder surgery, I chose three Michigan hospitals and ten surgeons and used the year 1928. The first hospital is one of the largest in the state. The second is not so large. The third is a smaller hospital, i. e., about one hundred and twenty-five beds. The Staffs are well organized and regulated by different types of administration. In these three hospitals, 857 cases of gallbladder disease were studied and 168 cases operated. There were 12 deaths attributed to surgery. There were 2 deaths of gallbladder disease not operated. This shows a death rate of 7.1% for the cases operated.

I selected ten surgeons of Michigan who represent the most prominent among the teachers and the surgeons of the principal cities and communities and submitted five questions. Nine surgeons responded. Absence from the country of the tenth prevented his response. These questions are very general and the answers could only represent a tendency.

The five questions and answers are:

1. Do you operate acute cholecystitis?
   Answers: 7 yes; 2 no.
2. Do you prefer a cholecystectomy or cholecystostomy in acute cases?
   Answers: 5 preferred ectomy; 4 ostomy.
3. Do you usually do a cholecystectomy in a chronic gallbladder?
   Answers: 9 yes.
4. Do you usually do a cholecystectomy when there is much oedema in and about the cystic duct?
   Answers: 4 yes; 5 no.
5. Do you do a cholecystectomy in a case of recognizable hepatitis?
   Answers: 5 yes; 4 no.

Twenty-five years ago, the removal of stones and drainage operations seemed to be practically the universal operations on the gall tract. Twenty years ago, this was almost as true, but in the ensuing few years, cholecystectomy became very popular and, in retrospection, I think we may say this operation was done rather promiscuously. Experience has taught us that acute cholecystitis demands similar considerations to those we have learned to apply in thyroid surgery. If possible, we wait for a propitious day for operation. We weigh the possibilities and ask ourselves, will this patient tolerate the acuity of the gallbladder infection and give the opportunity for a day of lesser surgical risk, or is the surgical risk today less than the danger of the disease itself? Similarly, in those acute cases where immediate surgery seems to be the safer course, methods

are compared and their risks estimated before the type of operation is determined. I think that most of us prefer to take out a chronic gallbladder which is a menace to good health.

There are two or three particular and outstanding situations which menace good results in gallbladder surgery among the patients who measuure up to a reasonably satisfactory physical status in general. Obesity, previous surgery and previous severe inflammatory processes may make individual difficulties with any case peculiar to that case.

Oedema of the cystic duct is significant of changes which I have come to regard as a danger signal. The significance of its cause is fundamental in causing one to pause to consider the more than usual dangers from cholecystectomy. It usually is significant of recent acute inflammation. This recent inflammation may include much of the gastro-duodeno-hepatico-pancreatic system.

When recognizable hepatitis presents, one considers the chronicity of it. Hepatitis is another stop, look and consider sign. Drainage may be needed now or it may be needed later. Two surgeons emphasized the importance of drainage of the cystic duct and I suppose under these circumstances. Of course, an impacted gallbladder or some duct obstructions have to be met in providing for the peculiar needs of the situation.

Evidence of pancreatitis requires a careful selection of the surgical method chosen.

It has come from a number of sources that pneumonia is a common cause of death among these cases of post-operative cholecystectomy deaths. In instances of this sort that have come into my experience, there was evidence of recent or present inflammation. On this account, I have wished that a drainage operation had been done instead, believing that mortality might have been avoided. I have done a cholecystostomy because of the evidence of recent inflammation, tided the patient over the dangerous period of the disease in this way, then at a later time, removed the gallbladder.

Uncured gallbladder cases treated by cholecystectomy might result more happily if two stage operations were more frequently employed. A cholecystectomy with drainage of the cystic duct may meet the requirements in some cases.

I have dealt in generalities in this paper and, necessarily, very briefly. The inclusion of many interesting topics is prevented by the limited time and space. May I leave with you, however?

1. Liver deaths are inadequately reported.
2. Opportunity for better clinical judgment lies in closer attention to liver functions.
3. The diagnosis of cholecystitis does not imply immediate surgery.
4. The time for gallbladder surgery is when the risk is least.
5. Signs of acute or subacute inflammation, as oedema about the cystic duct, hepatitis or pancreatitis, require one to consider well before deciding upon a surgical procedure.

DISCUSSION

Dr. Henry Vanden Berg (Grand Rapids): No matter what clinical branch of surgery we are interested in, all clinicians are very much interested in gallbladder disease, the medical man as well as the surgeon, of course, because it is so common. I am sure, therefore, that everybody has appreciated this general discussion by Dr. Carr. A general paper is what we like on a subject of this importance. Stomach symptoms and headache are the most common complaints that we see. Most of them are not caused by gallbladder, but the gallbladder holds second place. The greatest number is functional in nature. The neurotic individual with a number of complaints will oftentimes feature stomach symptoms. If he does not feature them he probably has them. So we certainly are all interested in stomach symptoms and in the cause in this case, we will say, of gallbladder origin.

In getting at the matter of our statistics, it is well to begin with the gallbladder as a focus of infection, I think. These statistics certainly cannot be very reliable. Dr. Carr hinted at it at different times. For example, we will say 2500 patients died in Michigan in five years of disease of the liver, including the gallbladder. That probably is not so. Many conditions that have been attributed to the cause of liver origin are probably incorrect. For example, we will see in our vital statistics that a patient died of carcinoma of the liver. That means that he did not die of carcinoma of the liver at all, probably because carcinoma of the liver is a very rare condition, secondary to carcinoma of the gallbladder, which seldom if ever occurs without the absence of gall stones, or secondary to carcinoma of the gastrointestinal tract.

When we say a patient dies of an aortic aneurysm, we have a good comparison. There is a nice, beautiful specimen in our exhibit downstairs. In many cases that would be recorded as a patient dying of aortic aneurysm. He did not die of aortic aneurysm; he died from syphilis, although the vital statistics will show aortic aneurysm. A patient dying from spinal cord disease following syphilis doesn't die from spinal cord disease; he dies from syphilis. So it is, I think, with many of these complications where patients are recorded to have died of gallbladder disease. Myocardial failure, for example, may be of gallbladder origin. I am wondering how many patients lose a good many valuable years of their lives because of gallbladder disease. A good many probably could have lived five or ten

years longer if their vital organs had not been damaged. In many cases where a patient dies at, say sixty-five, the machinery has run down, as it were. Why has it run down? It is hard to put your finger on any one thing; his heart is weak, everything is sort of out of gear. Isn't it a good question to bring up: Might that patient not have lived longer if his vital organs had not been damaged, and in this case we will say of gallbladder origin? That may be from any focus of infection, of course, but we do know that the gallbladder is so often the seat of infection.

Dr. Carr did not mention the complication of carcinoma of the gallbladder. It is not such an insignificant one. The pathologist of the Ford Hospital downstairs will tell you that it is from five to twenty per cent. I think twenty per cent is very high; it is probably nearer five. Nevertheless, it is something worth thinking about.

In the last summer we have had two cases of obstruction of the bowel from gall stones. If those patients had died it might have been recorded, had they not been operated under ordinary conditions, that the patients had died of obstruction of the bowel. It is true, in a way, that they died from obstruction of the bowel, but they nevertheless died from their gallbladder disease. That is why I say our vital statistics can be so inadequate.

The best data we have for our vital statistics come from the surgeon, because in this country we have so few post-mortems.

One thing struck me in this little synopsis of Dr. Carr's paper. It says that gallbladder surgery is so frequent that it has become ordinary surgery. I don't know of any surgery that requires greater skill in many cases than gallbladder surgery. A bad, complicated gallbladder, one with extensive surrounding adhesions, is technically a difficult one to operate. I don't know of any surgery that requires better surgical judgment than cases of this kind. Also, a knowledge of gross pathology is very essential in doing this work. Every year, any surgeon who does a good deal of gallbladder surgery will meet cases of obstruction of the common duct following removal of the gallbladder because the common duct has been injured. And those cases are extremely serious and extremely difficult to correct. It is impossible to give a good many of those patients any relief. Those patients usually die. Those patients die because of poor technic, indirectly from their gallbladder trouble to begin with, to be sure, but that is the responsibility that comes back to the surgeon. The surgeon must know his pathology. In doing this technic, I think it is important, unless you can definitely dissect out, visualize your cystic duct, that you should never go in there and if it is all plastered in there and he cannot separate it, he should open his gallbladder above and split it down empty the gallbladder, drain the gallbladder if that is what you choose to do in that case, or, if there is a stone lodged in the cystic duct, a mural stone that you cannot remove, you have to go right down there and remove it all.

Dr. Carr brought up this question of cholecystostomy in the removal of the gallbladder. There are cases, of course, where you want to keep the gallbladder, and especially in connection with pancreatitis that was mentioned. If you get ahead of the pancreas that is hard, and it is difficult for you to tell many times whether you are dealing with a chronic pancreatitis or malignancy, you had better not take out your gallbladder. If you have access to a good laboratory where you can make a frozen section, it can be determined in that way. If not, then don't remove that gallbladder, but do a cholecystostomy or a duodenostomy. We have done a few of those and they have given good results.

If you drain what Dr. Carr calls the cystic duct, that means you are removing practically all your gallbladder. You have got a good result in those cases. I don't see any necessity for going back and doing a second operation. It is seldom necessary anyway to do a second operation. After all, from a gallbladder drainage in many cases you do get rather surprisingly good results. On the whole, it probably is better to remove the gallbladder, to remove the disease, and get in that way better results.

Relative to what the doctor said about appendicitis, 6,000 cases dying of appendicitis as against 400 cases of liver disease, that certainly is not correct. Appendicitis is so much more obvious and outstanding. When he said that, the difference between an exophthalmic goiter and an adenomatous goiter shot through my mind. An exophthalmic goiter flares up and makes a great big display and you can diagnose it in a moment's time, whereas an adenoma of the thyroid, which is toxic, and slightly toxic, works so stealthily that it may go unrecognized. I think that is probably the cause of these figures. We surely are mistaken. It brings it back again to the question of the reliability and dependability of our vital statistics.

I just want to sum up what I have said about the gallbladder leading to ill health, as the doctor has brought up, and I want to bring up the question, especially, of the gallbladder shortening life through damaging the vital organs, having machinery run down. If the foci of infection had been removed, whatever they are, a good many of these patients might have lived longer. We inherit a certain longevity. Suppose I inherit longevity, but I am just showered with infections over a long period of years, damaging my vital organs. I may die at sixty-five, I may die at seventy. Nobody can figure out just exactly why I did—myocardial failure, and so on and so forth. I believe it is a good question to bear in mind. When a gallbladder comes and we treat it medically and we can do no more than give symptomatic relief, as I see it, it brings up an important challenge that we should give these people better advice. It is a condition we can procrastinate on. The patient certainly wants to procrastinate on it. He goes along twenty or thirty years with the symptoms no worse, evidently, than at the beginning, but the pathology has progressed and he is very much worse off. If these patients die from acute complications, it has been a mortality of delay.

Dr. W. J. V. Deacon (State Vital Statistician, Lansing): There is a very interesting thing to me in this paper of Dr. Carr's which is the fact that we have relatively few deaths from a very definite disease. The reason for that may be found, possibly, in the fact that the classification is based more frequently on the diseases of other organs, many of which are damaged by the liver condition, if you please, and the resulting death goes to the other organ.

Recently in New York a committee that has to do with this classification gave a great deal of discussion to this particular subject. I think we recognize the fact that we are not showing the facts, and would like very much to have the opportunity to present something more definite.

Of course, in those cases which develop malignancy, eventually the classification would not go to the liver but would go to the malignancy. I find, also, that in about sixty per cent of all cases of deaths there is stated to be some contributory condition, that is either frequently the heart or possibly pneumonia. It scatters through the whole category, but those are the principal contributory causes given.

Another interesting fact is that we are dealing with a disease which attacks and proves fatal about ten years earlier than the ordinary group of so-called organic diseases.

The greater percentage of our deaths occur in the fifty to sixty-five year group, whereas in the other organic diseases we find it is about ten years later. Another interesting fact to me is that about sixty to seventy per cent of the deaths from this cause are in females. Just why this is I do not know. The only liver condition that shows a higher percentage of males is cirrhosis of the liver, and we can understand that when we consider that alcoholic cirrhosis is included in that group. Just what we can do to bring this to a better understanding I don't know. On the matter of classification, we are up against foreign opinion, and our Scandinavian and German friends seem to want to bury diseases of the gallbladder and liver in other causes, that is giving the preference in almost every other case to any contributory condition which may be included. But the one important thing I think you gentlemen should bear in mind is that you are dealing with a condition that is exceedingly serious, that it attacks at a time of the greatest industrial value, economical value of the individual, and that the deaths listed under that head represent only a small fraction of the damage which the disease does.

Dr. Earl I. Carr (Closing Discussion): I haven't anything further to add except that vital statistics are of no more value than the reports and the diagnoses of attending physicians.

LIGHT THERAPY IN OPHTHALMOLOGY*

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The attention of the whole world has within the past few years been concerned more intently with the value of heliotherapy in the treatment of disease in general affecting the human body, and recently of its value in the treatment of certain diseases of the eye.

The role of sunlight in the treatment of disease of the human body is broad in its scope. The importance of sunlight in the life processes of animals and plants is well known and requires no emphasis. The exact manner in which these results are produced is not entirely clear.

It has been found that certain eye diseases respond particularly well to radiation with ultra-violet light and almost all conditions are benefited. There have been few reports in the American literature concerning the use of ultra-violet light and the results obtained. Some of the ophthalmologists in Germany have advanced the most extravagant claims for this type of treatment which in part I have not been able to substantiate.

In general, the spectrum is divided into the infra-red portion, or heat rays, extending from the longest waves, 2000 millimicrons, to those about 760 millimicrons. The visible spectrum is 760 millimicrons to 395 millimicrons; the ultra-violet portion extending from 395 millimicrons to about 200 millimicrons. The X-rays are below the latter. It has been found in the treatment of diseases of the eye that the ultra-violet rays at about 300 millimicrons have the greatest therapeutic value.

There is considerable discussion at the present time as to whether ultra-violet rays alone are of value in the treatment of disease, or whether heat rays must accompany the ultra-violet. An abiotic effect is more quickly produced when the heat rays are combined with the ultra-violet but ultra-violet in itself will cause an increased hyperemia of the radiated area and an increase in white blood corpuscles. Heat rays must be filtered out in the treatment of diseases of the eye for the heat rays produce cataract due to coagulation of the lens proteins.

The real beginning of ultra-violet therapy was due largely to an observation in England by an engineer named Simpson. In 1914 while using a Tungsten electrode on some ore he noted that eczema was cured on the hands of some of the workmen using the electrode.

The media of the eye share the property common to all matter, that of being transparent to some of the wave lengths of the spectrum and absorbing others. It is the absorbed rays which are of therapeutic interest. It is possible that in this absorption the molecules in receiving this transfer of radiant energy are heated. The longer rays, the infra-red, produce a burn;

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the shorter, the ultra-violet, produce an abiotic or destructive effect. It has been found that at about 300 millimicrons, using the usual intensities, typical cell reaction is produced characterized by epithelial desquammation, mitosis of cell nuclei and cell proliferation.

Each cornea varies in its individual responsiveness to ultra-violet similar to the variation of the skin of individuals to exposure to sunlight. In doses of correct intensity an analgesic effect is noted. No photophthalmia leading to tissue destruction results. The cornea, aqueous and lens absorb all rays of light which might injure the retina under ordinary limits of exposure.

Verhoeff and Bell have conducted experimental investigations on the pathological effects of radiant energy on the eye and their experiments have proven that changes in the lens epithelium occur from an overheating of the eye with a consequent disturbed nutrition of the lens. There is no experimental proof that cataract is ever caused by the ultra-violet rays alone.

The Carl Zeiss treatment lamp which uses the carbon arc and a quartz hollow glass container in which a solution of distilled water or one-half per cent copper sulphate is placed to absorb the heat rays and a uviol filter which cuts out part of the visible rays, and also the ultra-violet rays below 290 millimicrons. The carbons are impregnated with a metallic core such as nickel, aluminum, cobalt, iron or tungsten which causes a greater amount of ultra-violet rays to be available. I have used the iron core carbons and found them to be entirely satisfactory.

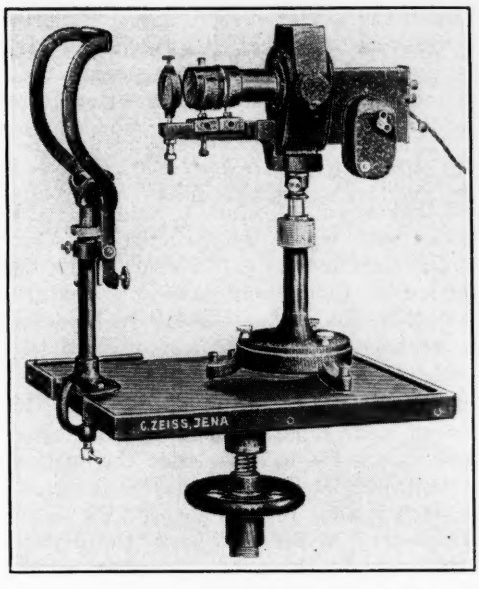

Figure 1
Birsch-Hirschfield Ultra-violet Radiation Treatment Lamp. (Carl Zeiss)

Laboratory experiment:

A thin smear of staphylococcus albus was taken from a fresh bullion culture and spread evenly over an agar plate. The glass cover was removed and the light was focused by means of the quartz condensing lens so that an area one inch in diameter was radiated at a distance of two inches from the focusing lens. The quartz and uviol filters were in place. The exposure time was three minutes. The cover was replaced and the plate immediately placed in the incubator along with a control plate. The portion of the agar plate which was radiated showed no growth of organisms at the end of twenty-four hours. Surrounding the radiated area there was a profuse growth as there was also over the entire control plate.

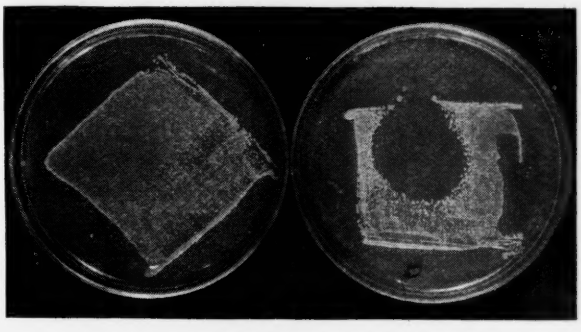

Figure 2
After 24 Hours Incubation. A. Control Plate. B. Plate Radiated 3 Minutes.

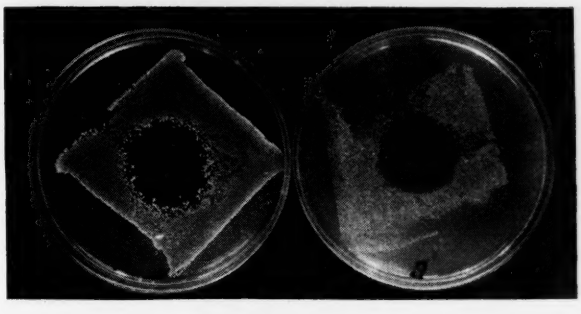

Figure 3
B-1, Plate in Fig. 3, After 48 Hours Incubation.
B-2 Plate in Fig. 3, After 72 Hours Incubation.

The most marked effect noted with this treatment was in corneal ulcers. Ulcers respond particularly well. This applies within limits to any form of ulceration affecting the cornea. 147 cases of corneal ulcer were treated. Many were of the simple type. All seemed to heal more quickly. The simple forms heal, of course, without any treatment. The more severe, recurrent and chronic forms are the ones

with which we are particularly concerned. Marginal ulcers heal rapidly. I have had four cases of dendritic keratitis which had recurred at frequent intervals using the ordinary methods of treatment. It is now two years and there has been no recurrence in these four cases. Two cases of tuberculosis keratitis did not respond to tuberculin therapy but showed very rapid improvement as soon as light therapy was instituted. Two cases of interstitial keratitis, both having scars of fifteen years or more duration, were improved with vision almost doubled. Two cases of sclerokeratitis, from a focus of infection, persisted after the focus had been removed and at frequent intervals appeared to relight as was evidenced by redness, pain, extension of the opacity in the cornea and diminished vision. Two cases of Band keratitis were treated after the scraping of the calcium deposits. In two years there has been no recurrence of the calcium deposits and the thinned corneal area is more firm.

One rather striking case of keratitis e lagophthalmus responded dramatically. A nurse from the department of health had lattice-like corneal opacities in both eyes which had reduced vision since childhood. Vision with correcting lenses—O.D. 20/100-1 ; O.S. 20/200. Improved after a series of light treatments and dionin solution, with the same lenses, to O.D. 20/30 and O.S. 20/100. No conclusions are offered from this one case. I hope to have several to report on soon.

Radiation always caused a diminution of the infection and pain, and the corneal opacities have slowly cleared. Whether this would have occurred irrespective of the radiation I am not in a position to say.

Phlyctenular keratitis in children has responded very quickly and with few treatments. Trachoma has not shown any marked improvement in the treatment with ultra-violet therapy except when there were corneal ulcerations.

In my opinion, this form of treatment has a definite place in our therapeutics. It is a valuable auxiliary to other forms of treatment. It has its limitations and is not a cure-all. Caution must be used that an overdose is not given. The judicious use of ultra-violet light as an adjunct to our other forms of treatment will be very beneficial. If ever local phototherapy could be of value it should be in treating affections of the eye, for here we can control the exact dosage and also readily observe the effects produced.

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MODERN SCIENCE IS NOT SCIENTIFIC

A large part of what the public calls science and much of the science teaching in schools and colleges today is not really science, Dr. A. J. Goldforb, retiring chairman of the medical science section of the American Association for the Advancement of Science, declared at the recent meeting of the association.

"The extent to which unscientific science is taught in our schools is amazing." he said. "Maltraining like malnutrition, if long continued, has very serious and lasting effects on the organism." Evidence of scientific maltraining may be found in many of the papers sent to scientific journals which must be rejected for major and serious defects.

Science is difficult to define and few educated or "schooled" persons today agree on what subjects may be properly called science, outside of a few broad classifications.

"The experimental method, properly defined, characterizes real science and differentiates it from primitive science, from pseudo-science, from non-science, from anti-science," Dr. Goldforb said. He described the history of the development of science and compared it to the development of the human race, science having had its primitive stages, just as man had. The primitive stage of science included the fact-finding stage and the law-formulating stage, but the experimental stage represents a more complex and modern development.

"Collections of facts do not constitute science. At best they are the prelude to science, the building blocks with which the structure of science is built," Dr. Goldforb said. "To substitute the accumulation of facts and laws or dexterity of manipulation for experimental methodology is naive, erroneous, anti-science, the cartoon of science."

Fact and law worship dominates the science courses in nearly all schools and colleges, Dr. Goldforb said. He believes that the methods of experimental investigation may be pursued long before work is done for the doctor's thesis, and he looked forward to the day when there would be more scientific teaching of science in all schools and closer co-operation between all scientists, no matter in what branches they are engaged.—Science Service.

THE STATUS OF MODERN SURGERY IN MASTOID INFECTION

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An operation on the mastoid, like that of the removal of the appendix, was, in the early history of our Hospitals, considered to be a very serious and a hazardous procedure.

As an instance: Since the time of the first opening of Harper Hospital in 1884, great advances have been made in all lines of surgery. One of us (Doctor Campbell) came as a student to the old amphitheatre at the Hospital to see the first abdominal operation performed in the City of Detroit. It was an event of great interest—the entire Medical School was present; the abdomen was to be opened and the appendix removed. The removal of the appendix has now become very commonplace, and the mortality for the operation has passed from one that was very high, to one that is now very low. In the same way, other fields of surgery have shown remarkable progress—so it is that the Otologist has been able to make the mastoid, as has the general surgeon the appendix, one of the safest operative fields in medicine.

IMPORTANT FACTORS

It is quite to be expected that many of the factors that worked to improve the end result in the surgery of the appendix, have been equally as important in influencing surgery of the mastoid. Among the important factors, we should name:

1—Early diagnosis and operation.

2—Strict attention to surgical technique.

3—Improvement in post-operative treatment.

The mastoid, like the appendix, lies in a neighborhood closely adjoining vital structures. For this reason, the chances for prompt and satisfactory recovery are greatly favored if our case is operated before the pathology has extended beyond the anatomical limits of the part involved. That is, before we have present one of the more or less serious complications.

A discharging ear may lead to a most serious situation and deserves one's earnest and best supervision. Let us enumerate certain signs and guide-posts, by which one may judge and advise when an infection in this region is not progressing satisfactorily, and state when and what type of surgery is indicated.

ACUTE MASTOID INFECTION

The principles and rules for the treatment of acute infection and abscess formation in other parts of the body should apply to infection and abscess formation in the mastoid area; namely, that an acute confined abscess must have satisfactory drainage before it will heal. If the drainage is not established, the limits of the abscess will continue to extend until some avenue of exit is found. In other cases, if drainage is unsatisfactory, the acute abscess may pass on to a chronic infection with fistula formation and foul discharge.

To properly understand infection of the mastoid, a few points concerning the anatomy of the part should be established.

First—the middle ear and the mastoid stand as two adjoining rooms in a house, except that there is no connecting door. There is however, a small connecting passageway up near the ceiling corresponding to a transom between two rooms. This passageway we term the mastoid antrum. Certain other points can be made clear by a continuation of this rather homely simile.

The relative size of the two rooms would be as a pantry or vestibule to a large living room, the smaller of the two, standing for the middle ear, which is only slightly over ¼ of an inch in its dimensions. The mastoid is from three to five times this size and stands on a lower level than the middle ear, as if the middle ear was on the ground floor, while the mastoid is carried down to the level of the basement. It is by a consideration of these points that one will be able to interpret many of the manifestations of mastoid infection. Thus it may be seen how infection that has reached to the tip or lower level of the mastoid, may find difficulty in drainage that must cross up and out over the small transom or the mastoid antrum.

The mastoid is not one large unoccupied room, but it is filled with cells, as one piece of furniture might be piled up on another, until the room was filled. If the room is to be thoroughly renovated, all the furniture must be removed, and just so in the case of an infected mastoid all the cells must be removed, if we are at-

tempting to do a complete clearing out of the mastoid cavity.

There is only one opening into the mastoid cavity which as we have indicated is the mastoid antrum, connecting the mastoid space with the middle ear. The middle ear in turn, has a connection with the throat by way of the Eustachian tube. Another avenue of exit may be established from the middle ear; namely, by an opening in the drum.

The middle ear being a very small and more or less unobstructed space, infection here with its resulting exudates soon fills our space and brings pressure. The most natural thing to happen as the middle ear fills under pressure, would be for the infection to pass or overflow through the mastoid antrum, and come into the larger and more spacious room, the mastoid.

This extension will usually occur in the first two or three days of the ear trouble. Pressure over the area just back of the external auditory meatus will show tenderness, and this marks the first invasion of the mastoid. At this point one of two things will commonly happen. Either the drum is incised, or ruptures itself, and we have our first effort at drainage of the abscess. In most cases this anterior drainage or drainage by way of the middle and drum will be quite satisfactory and in a few days we find the tenderness over the mastoid antrum disappearing. In other cases a different course will be followed.

If we limit our consideration to those infections which progress by the breaking down of trabeculations and true abscess formation, there are four possible terminations:

First—a cure by anterior drainage; i. e., drainage through the mastoid antrum and out by way of the middle ear.

Second—a cure by posterior drainage, established by an opening in the mastoid cortex. (Simple mastoid operation.)

Third—the confined abscess extends its boundaries and comes to involve one of the vital structures nearby. (Sinus thrombosis, meningitis, labyrinthitis, dural abscess, or even brain abscess, often terminating fatally.)

Fourth—the infection becomes chronic because of insufficient drainage, and the patient continues to have a chronic discharging ear. (Which may at any time require radical surgery.)

Once it is evident that anterior drainage is insufficient, one should proceed at once to give satisfactory drainage by opening the mastoid cortex and doing a complete and careful exenteration of the mastoid cells.

How is one to know whether anterior drainage has failed? It is beyond the scope of this paper to discuss in detail all the possible signs and symptoms of a mastoid requiring operation, but there are a number of observations which apply to abscesses in general, by which one may get valuable information:

First—an abscess that is draining properly should soon show an improvement in all its local manifestations; the tenderness found on pressure over the antrum, the tip and posterior border, the thickening of the periosteum made out by careful palpation of the mastoid surface, the swelling and redness of the adjacent soft parts, the character and the amount of discharge, the appearance of the drum, the presence or absence of drooping of the canal wall. These are the local manifestations of an acute infection of the mastoid cavity and are valuable guides and sign posts which will aid one in judging the progress being made.

The return of tenderness has in nine out of ten of our cases proven to be a positive indication for mastoid surgery. A limited number of cases may carry on to a satisfactory termination following a reincision of the drum. However, we are not in sympathy with the practice of frequently repeated drum incisions. A few cases will profit by a second or third drum incision, but by far the majority of the patients that are being subjected to multiple drum incisions have progressed to the point where they will not get satisfactory drainage through the opening in the drum, and are therefore cases that should have a careful and complete mastoid operation.

The question of discharge is one deserving some special comment, for here we have the one sign that points the way to chronic mastoid infection, with its attending serious loss of hearing, intracranial complication, and the necessity for radical mastoid surgery. The average ear that has the drum opened and is followed by a profuse purulent discharge will run through a fairly typical course in regard to the amount and to the time it will discharge, the drainage being quite profuse by the end of the first three or four days and continuing so through the second and third week, showing a decrease in the end of the third and through the fourth week, to be completely healed by the end of the fifth week. The case that comes to the end

of the fifth week and still shows a profuse purulent discharge is on the way to a chronic mastoid. Anterior drainage by way of the drum has not been sufficient and theerfore our abscess is not healing. It is here that we should urge posterior drainage and do a complete simple mastoid operation. The patient may have no other symptom than the continuation of profuse purulent discharge through the middle ear.

X-RAY DIAGNOSTIC AID

A very satisfactory method of diagnosis of mastoid disease is the X-ray. This method has become so well standardized that the only variable factor in the final result—the finished radiograph, is that due to disease. The density of the mastoid cellular area is increased by exudate and involvement of the boney parts is characterized by decreased density. Stereoscopic films may be made showing the mastoid area in three directions, or both right and left mastoids may be taken on one 8 x 10 film by the so-called Granger method. This facilitates comparison between the right and left or normal and pathologic mastoid as the case may be. The slightest variation in density or first degree mastoid may be noted; the second degree is that of increased density with the cell septa or trabeculations still visible. In the third degree the involvement includes the cell septa and mastoid periosteum as well. If for any reason the surgeon finds it advantageous to keep the patient under observation, the radiographic findings may be used to check up the pathologic condition. An occasional case will be found in which the clinical manifestations are much more severe than the radiographic findings indicate. Of course in such instances the condition of the patient should be the deciding factor regarding surgical treatment.

CHRONIC MASTOID INFECTION

One needs only to take note of the many chronic discharging ears that we see in the clinics and in private practice, to be impressed with the thought that many infected mastoids have been neglected. There is possibly no other place in the human body, where an acute abscess will be neglected as unimportant and permitted to go on to a chronic foul-smelling discharge, as often as in the ear. This statement applies to an attitude assumed by the layman as well as by the general medical profession.

It can be safely stated that the great percentage of all chronic discharging ears were at one time in their life history, acute mastoids which if properly operated, would have healed satisfactorily, and have given the patient no further trouble and most likely have saved for him a normal hearing. The same statement can be made for most of the cases of brain abscess as well as the other intracranial complications following infection of the mastoid.

One has only to stand by and see a patient die from brain abscess or from meningitis, complicating acute or chronic mastoiditis, and he will be impressed with the responsibility one takes who insists that a discharging ear is a trifling affair.

SUMMARY

The information on which one judges the needs for mastoid surgery following acute mastoid infection, comes from a study of the common manifestations of abscess formation. Our conclusions are governed by the rules and principles of modern surgery applying to the abscess in general; namely, that an acute abscess must have satisfactory drainage before it will heal properly.

CANCER AND ULCER MOST COMMON STOMACH DISEASES

"Cancer and ulcer of the stomach are the two most common diseases encountered in this organ and are easily recognized by means of the X-rays," Dr. Maurice Feldman, associate professor at the University of Maryland Medical School, declared at the Toronto meeting of the Radiological Society of North America. Early diagnosis offers the best chance for recovery from cancer, and from ulcer, too. But the early symptoms of these diseases are vague. Too often the patient puts off seeing the doctor about what he thinks is only indigestion. The physician, even when consulted early, cannot determine the presence of these diseases without an X-ray examination.

"When the disease has already resulted in destruction of tissue, the condition may be easily recognized," said Dr. Feldman, speaking of stomach cancer. "But this is often a late stage of the disease.

"X-rays offer the earliest positive diagnostic signs of cancer, which can in no other way be determined. The necessity of a thorough X-ray examination is extremely essential in every case of digestive disturbance which is not promptly relieved by ordinary remedies.

"Cancer of the stomach must be diagnosed early if relief from this condition by surgical means is to be obtained. This likewise holds true in cases of ulceration. Early diagnosis of this affection, while the condition is yet superficial, may mean a rapid recovery without any complications, when placed under the proper medical care."—Science Service.

THE PREVALENCE OF PULMONARY TUBERCULOSIS WITH ACUTE ONSET*

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The chronic nature of pulmonary tuberculosis has, in the majority of cases, been stressed so much that it has almost been lost sight of that there are frequently acute manifestations of this disease other than the dread miliary distribution, or the florid caseous pneumonia.

For many years it has been taught that pulmonary tuberculosis begins in the apex and slowly progresses to involve more and more of the lung as time goes by until what had been a minimal case in extent went onto moderately advanced disease, and finally far advanced. In reviewing from time to time the cases coming under observation in their distribution as to stage of the disease, it has been noticed that a large number of cases were diagnosed minimal, and a very large number far advanced. Another striking fact has been noted also; namely, that many patients who present themselves with far advanced pulmonary tuberculosis give a history of only a short illness, a matter of a few weeks or a few months at most.

In order to note more systematically just how often these more or less acute cases occurred, and, further, that we might seek for symptoms or signs that would aid in recognizing them earlier, a large group of patients was studied intensively, to determine the time of onset as accurately as possible in relation to the first known disease in the individual and to note what happened in the interim. Further, it was noted the location and extent of the lesion and its type, whether exudative or productive.

A group of two hundred consecutive admissions who had pulmonary tuberculosis were carefully studied as indicated. Of these 105, or 52.5%, had a sudden or acute onset; whereas, 95, or 47.5% had an insidious onset from the history of symptoms.

This is very striking, indeed, when we realize that more than half the persons developing pulmonary tuberculosis begin their trouble acutely. The symptoms are usually those of an acute cold or influenza-like attack, with malaise, fever, catarrhal symptoms, often some cough lasting from a few days to two or three weeks, from which recovery is slow. Often a complete recovery is not made, though more frequently than not the patient tries to go about his usual duties, and may be able to do so for some time before he breaks down again.

It is at the time of this second break down that usually the diagnosis is made, and the extent of the trouble already is advanced with cavity formation. For instance, the 105 patients with sudden onset had cavities in 72 of the number, or 68.6%. But more striking still, 27 of these had a duration of less than six months, and 22, or 81%, of this number had cavities, indicating that cavity formation is a quite early manifestation of the disease. This is further borne out by the fact that the percentage of cavity bearers does not increase with duration of disease.

Another factor of great importance noted in the study was that a large percentage of these patients had the apex free of disease, 45 or 22.5% being entirely free, and 36, or 18%, more showed relatively free apices; while 119, or 59.5%, showed apical involvement. Those cases who had free apices usually had an exudative type of lesion in the infraclavicular or mid-lung regions.

It was most interesting to find that 95% of the cases with free apices had an acute onset; whereas, only 30% of those with apical involvement had had a sudden beginning of their trouble.

From these findings it seems that it is of real importance to determine the type and location of the lesion because of the prognostic significance. It has a great bearing upon the type of treatment to be employed.

The practical application of this study to the diagnosis and treatment of pulmonary tuberculosis lies in the observation that while pulmonary tuberculosis may be a chronic disease, it is in many instances a disease of sudden onset, which progresses rapidly to advanced disease and then may go into a chronic state. If the disease can be caught at the onset the chance for recovery with proper treatment is far better than after the destruction that goes with advanced disease has occurred. Further,

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there is also the observation that even where the onset is insidious, there may be acute exacerbations in many instances which may go unrecognized unless carefully sought after.

These findings clearly indicate why it is that so many of our patients are advanced cases when the diagnosis is made, and it is often not the fault of the physician, or even the patient himself, that for a time the trouble is not recognized. It is, therefore, of the utmost importance that the public be instructed that tuberculosis is often acute in its onset, and as such must be carefully studied to differentiate it from other acute or subacute respiratory conditions. Furthermore, a careful study of the localization and type of lesion will show that the apical lesion small in extent is very often a healed lesion and after a short observation, to rule out any active symptoms, the patient with such findings may be quickly restored to his work, instead of being carired indefinitely as a tuberculosis patient who goes out eventually to fatten the percentage of arrested cases as a result of treatment. A careful study by Fishberg recently published bears out the fact that the apical lesions are relatively benign.

DIAGNOSIS

The diagnosis of pulmonary tuberculosis is not a spectacular procedure, but must rest on the ability of the diagnostician to patiently apply a few simple procedures, which may be grouped as follows:

1. A careful history of the illness.
2. A complete physical examination.
3. X-ray.
4. Sputum examination.

A brief elaboration of these points may be of value:

1. The history of the illness should stress the nature of the onset, the duration, any previous attack, and any record of exposure to the disease tuberculosis. The nature of the onset has been sufficiently discussed already.

2. The physical examination may be disappointing, revealing very few signs, but may, if there is marked trouble, reveal the signs of broncho-pneumonia in the infraclavicular or mid-lung regions. The location of the lesion may give some altered breathing and even rales in the apex, purely from altered areation of the apex. Rales when found are moist in type, tending to be moderately coarse with progressions of the lesion. In short, the finding of physical signs indicating a lobular pneumonia must call for the ruling out of tuberculosis, especially when the signs are infraclavicular in location and are slow to disappear.

3. X-ray. The diagnosis of tuberculosis is incomplete without an X-ray of the chest. Indeed Webb, of Colorado Springs, is quite right when he states that "Roentgen examination is the only method available for detecting early pulmonary tuberculosis". The X-ray will ordinarily reveal a fairly dense shadow of varying size and irregular outline, with or without mottling, suggesting an exudative infiltration. This may be located in the infraclavicular region, the mid-lung, or, at times, the base. Sereal roentgenograms may show this lesion to rapidly extend and that excavation may occur. There may be absorption and disappearance of the lesion also occurring quickly. There should be more use of the X-ray, no questionable chest condition has been completely examined without it.

4. Finally the sputum must be carefully examined, not once, but several times. Many times this will complete the diagnosis. Too little significance has been given to systematic sputum analysis. Some special laboratory test for the diagnosis of pulmonary tuberculosis is always being sought, but after all what more accurate test can there be than careful sputum analysis? As proof of the value of such tests, Pinner and Werner found during one year's admissions to the Maybury Sanatorium 68 patients with pulmonary findings who had negative sputum. Repeated studies showed tubercle bacilli to be present in 32 of these. A careful clinical check of the remaining 36, who unquestionably had tuberculosis, revealed that all but five could be classified as arrested or quiescent cases. There were 585 patients with five showing active symptoms and negative sputum. This is seen to be less than one per cent error. There are few, if any, laboratory procedures subject to less error than this. The diagnosis is to be thought of in every case of respiratory disease where a clear cut diagnosis has not been made, and if tuberculosis is thought of an ruled out if possible, many more early cases may be uncovered when they are more suitable for successful treatment.

TREATMENT

It is well recognized that tuberculosis can be successfully treated if not advanced too far. These cases of infraclavicular lesions are at once a very dangerous and a very benign type; dangerous because they may progress rapidly to excavation and extensive involvement by spreads, and benign

because they may clear by absorption with very little permanent damage.

With the wide use of collapse therapy and its splendid results, it is exceedingly important that these cases be recognized early when disease is still localized to a portion of one lung when such procedure can be most successfully applied.

The very small lesion with no evidence of cavity formation may be tried on bed rest for a short time, and if clearing occurs promptly this may be sufficient. However, careful observation should be maintained for the first indication that regression of the lesion is not taking place when some form of collapse therapy should be indicated, phrenic nerve surgery, pneumothorax or both.

If cavity has already occurred and the lesion is predominantly unilateral then no time should be lost in resorting at once to collapse therapy, which together with bed rest offers the best hope of recovery.

Without going into extensive detail as to indications for the various forms of collapse therapy suffice it to say that the treatment of tuberculosis has become much more active, and the type and location of the lesion is all important in deciding the method of therapy to be followed.

SUMMARY

1. Pulmonary tuberculosis is often acute in its onset, probably at least one-half of the time.
2. The development of advanced disease is often a matter of only a few weeks or months at best.
3. The acute forms are characterized by an exudative infiltration, sub-apical in location.
4. The truly apical lesion tends to be benign and represents a healed fibrotic lesion.
5. The diagnosis rests on history of acute respiratory onset, physical findings suggesting broncho-pneumonia, X-ray films showing a sub-apical lesion and often positive sputum.
6. It is important that the acute onset of tuberculosis be recognized by the patients and physician for in these cases time is all important if successful treatment is to be instituted.

Dr. Max Pinner and Dr. Ben Wolepor collaborated in this study and should receive equal credit.

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DISCUSSION

Dr. George McKean, (Detroit): I think the work of these gentlemen of Northville is just wonderful. They are doing it as nobody else I have ever seen recorded is doing. I have watched their work for these last two years, and it has revolutionized my notion of tuberculosis.

Dr. W. H. Marshall, (Flint): We hear a good deal about the failure of the profession to recognize early tuberculosis. Much of the criticism is unjust. For a number of years I conducted a tuberculosis clinic in an industrial city and I arrived at one very important conclusion, namely, that the working man does not have time to have incipient tuberculosis; that is, due to economic stress he cannot afford to quit work, cannot afford to come to his doctor and consequently by the time the physician sees him, whether in the office or the clinic, the case is no longer incipient tuberculosis. I think there has been very much unjust criticism of the rank and file of the profession for their failure to recognize incipient tuberculosis.

Dr. Douglas has given an admirable review of these acute cases. There is one other phase of acute pulmonary tuberculosis that I should like to mention, a phase that has a medico-legal importance at times. I recall a young soldier who received an abdominal injury during the war, was admitted with a fever and was found to have a very active tuberculosis. It was fulminating, and he died. On postmortem it was found he had had abdominal tuberculosis in childhood. He had caseous lesions which the trauma had activated. So, too, I have seen following crushing wounds of the chest an active pulmonary tuberculosis. One might postulate that there, too, latent caseous glands might be ruptured that flood the bronchial system and start up an acute tuberculosis.

Dr. Conrad George, (Ann Arbor): I am troubled with the impediment of not hearing anything of these papers except the word tuberculosis. That is all I could get out of it. So I am not in position, indeed I have not the capacity, to discuss these papers that have been prepared with great care. The present literature on this subject is so vast that an ordinary man would require 48 hours in the day to read a little of it to see what is going on.

Now, there are things in tubreculosis that are beyond man's comprehension at the present state. I have laid down in this Society a paper that was read shortly after Koch had demonstrated the isolation of the tuberculosis bacillus. I had a patient, a farmer's wife, nearly 70 years of age who had history of consumption in the family. All her descendants had it markedly, and she supplied the bacteriological laboratory which was first instituted in Ann Arbor with sputum for every student, and the germs were just as numerous as snow flakes. All the care this patient had was from a 14-year-old daughter who did the cooking on her large farm, and under what I thought was the Cervello treatment the woman recovered perfectly and lived to be 96 years of age. She was in the sixties when I treated her and weighed below 90 pounds. She went up to over 200 and lived to 96 years of age. So I think that was some treatment. This case was laid down in the annals of this Society nearly 50 years ago. Vaughan had the sputum in the laboratory for years, and at one meeting of the Society he acci-

dentally asked, "George, what has become of your lady?" I told him she then weighed over 200 pounds.

The injection treatment, or 606, is considered just as much a failure today in preventing secondary and tertiary lesions of lues. That is reognized in Germany just the same as the treatment of the Copenhagen doctor. Those things are going even though they are pretty new.

There is at present a treatment in vogue in Germany that I wish to bring before some of you. We have some cases left because the state board of health takes all these cases away from the general practitioner. (Laughter). We may have a case now and then.

The treatment is very simple, so simple that it will strike you with such simplicity as to shake it off, but it is so simple you had better try it. That is the daily injection which they used to use in the old treatment of lues before 606 came in, potassium soap but not in liquid form. They used it in the semi-liquid form and rubbed it over the body. They dipped the hands in hot water and rubbed it in until it dissapeared.

When I first saw that statement, I compared it with another statement from another specialist in skin diseases. I read an article by someone who uses nothing but the potassium soap bath in treatment for all forms of skin diseases, and after 30 years he has been trying to put it down as the best treatment in all skin diseases, generally. That is soft soap. (Laughter).

Dr. A. B. Wickham, (Detroit): I should like to add my word of appreciation for Dr. Douglas' paper. I should like to ask the doctor, in his closing discussion, whether he had in mind the shortened duration of infection or was he simply dealing with Perthes' disease? It was my impression that he did not refer to the close or near date of infection but that infection might have occurred a number of years ago. I do believe, however, that many of these cases that had a sudden onset of disease might have had infection many years before and then had a sudden flare-up.

I believe in the doctor's address this morning he has explained some of the reasons why we get these sudden onsets. When we stop to realize today we know that the disease is progressing in the adolescents, those of high school age. It is increasing, instead of decreasing, among the high school girls and boys. I believe, as he has spoken in his paper, that is due to the stress of social life during the athletic physical training, the pressure of high school life today. We are getting a great many diseased boys and girls who are supposed to be perfectly healthy.

Recently, at our Atlantic meeting, the head of Phipps Instiute demonstrated that the high school boys and girls of Philadelphia are showing a definite increase, 2 per cent, who are supposed to be healthy, of early active disease. Also in Minneapolis, the schools there have shown the same condition.

Most of these cases are of a sudden onset. Then, again, we get the strain of early married life, motherhood, and the strain of home life among the male population.

Another point is one the doctor brought out: When should we expect the disease? I think we as practitioners have this acute sense of observation. There is something about the tubercular case of which it is true to say, "He made a diagnosis from the door to the bed." You make that quick observation sometimes just from the patient's personal appearance when he comes into the office. There is something about the pallor, the waxy expression of the tuberculous patient which marks it as against the hectic type of toxemia. Our public health nurses can observe these patients. I do believe, certainly, that the acute onset is becoming more and more prevalent if you look for it. There is one point that I feel has been stressed. (I am not just in accord with it altogether), and that is that the diagnosis can be made first by the X-ray. I certainly believe you have to have scar tissue in order to show a shadow on an X-ray film, and these patients can be diagnosed, I think, long before by early signs.

Another point is that the disease starts on one side and becomes inactive, and then it will flare up on the other side and spread.

Dr. Bruce H. Douglas, (Closing discussion): In answer to Dr. Wickham's question, I should say I didn't attempt at all in this paper to analyze the matter of infection. I merely meant to deal with the manifest disease pulmonary tuberculosis. I agree that infection probably occurred in most instances year ago and that it is only the manifestation of the acute onset of the disease that is here described.

AJINOMOTO

Whenever protein is eaten, it is hydrolized by the digestive juices and a mixture of some twenty amino-acids is produced and subsequently absorbed. In spite of the fact that this is a familiar biochemical reaction so common as to excite little notice, the laboratory production of pure crystalline amino-acids is accomplished only with difficulty, so that these compounds are listed as rare chemicals and are usually found only in research laboratories. Recently attention has been called again to the fact that the acid sodium salt of glutamic acid, an amino-acid occurring in proteins, is made in large quantities for food purposes in the orient. It was discovered in Japan that this salt has a decided meatlike taste. The use of meat in the diet is condemned by Buddhists and, instead, shavings of dried fish were added to many of the Japanese dishes to improve the flavor. With the advent of monosodium glutamate in commerce, this condiment is said to have become as common in Japanese cookery as was salt or sugar. It is called "Ajinomoto," or "the element of taste." The Chinese have become large users of this material, the great number of vegetarians among them creating a demand for it. This condiment has also been used to displace the more expensive chicken and meat extract formerly used to impart taste to their dishes. Monosodium glutamate is made by hydrolyzing gluten or soy bean by hydrochloric or sulphuric acid. The manufacture began in China about eight years ago and Han states that the value of this chemical made in China in 1928 was $630,000 and that $500,000 worth more was imported from Japan. The export of this material from China to the Philippines, Dutch East Indies and Singapore has become a trade of considerable magnitude. While the cost of glutamic acid in this country is about $15 for 100 gm., the price of Ajinomoto is from $2 to $3 a pound. The exigencies of religion, of racial food habits and of economics have transformed what in this country is a rare chemical to a common article of food among the oriental nations.—Jour. A.M.A., Nov. 30, 1929.

MODERN METHODS OF TREATING PROSTATIC OBSTRUCTION*

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Only a few years have elapsed since the treatment of prostatic obstruction consisted entirely of immediate relief of the obstruction by prostatectomy. Today prostatectomy represents only a part of the treatment instituted in the relief of prostatic obstruction and unfortunately may not always be employed in all forms of prostatic disease.

Malignant disease of the prostate gland at The Mayo Clinic comprises 15 per cent of the obstructive lesions in the prostatic age, as differentiated from infections of the gland of comparatively young persons, whereas adenomatous hypertrophy and fibrosis of the gland are encountered in about 85 per cent of the cases.

A consideration of the treatment of malignant disease of the prostate gland is a subject in itself; however, as it is my purpose to devote most of my time to commenting on methods of dealing with the benign, operable type of obstructing lesion, the malignant lesions will be considered only briefly.

The malignant lesions, I believe, in general are more insidious and usually do not produce symptoms of obstruction of the vesical outlet early, and in consequence are often well advanced when the patients first present themselves to the urologist or surgeon. Advance of the disease is usually characterized by invasion of the capsule, seminal vesicles and periprostatic tissues as determined by digital examination of the gland, and the presence of metastasis to the bones of the pelvis and spine or to the lungs, as depicted in roentgenograms. When such manifestations of advanced malignant disease are present the condition is clearly inoperable from the standpoint of cure, and it is also unsuitable for the application of physical agents. Practically the only time a malignant lesion of the prostate gland can be considered truly operable is when the capsule and seminal vesicles are not invaded, there is no demonstrable metastasis, and the diagnosis of a malignant lesion cannot be made with any degree of certainty, or when the lesion proves to be malignant at the time of prostatectomy on a preoperative diagnosis of benign prostatic hypertrophy. Certainly few cases may be truly considered within the realm of operability when a definite clinical diagnosis of carcinoma of the prostate gland can be made. There are few adherents to the so-called radical operation, curative in purpose, once a diagnosis of carcinoma is established.

A word of caution is necessary regarding the accuracy of diagnosis. The stony hardness of a gland and the irregularity sometimes encountered within the gland and confined within the capsule may lead one to the conclusion that a malignant lesion is present, and usually this is true; however, without roentgenologic examination of the prostatic area in doubtful or questionable cases the possibility of prostatic stones cannot be excluded. Prostatic calculi sometimes attain considerable size and may lead to error in diagnosis. Likewise a gland of firm consistence which presents signs and symptoms justifying the strong suspicion of a malignant lesion may prove to be entirely benign at operation. It has been my practice to advise surgical exploration of the gland in cases in which the diagnosis is doubtful, and in absence of periprostatic involvement or metastasis. Each year at The Mayo Clinic about 6 per cent of the prostate glands removed are malignant, but in practically all instances the prostatectomy was undertaken on a preoperative diagnosis of benign prostatic hypertrophy. For the most part, in fully 75 per cent of the cases in which the clinical diagnosis is unquestionable, treatment is simply palliative.

For obstruction and retention of urine suprapubic cystostomy affords relief. Partial prostatectomy for relief of obstruction is seldom justifiable, for although the urethral channel may be opened temporarily, occlusion usually soon recurs. However, Chute has recently reported his experiences in the treatment of carcinoma of the prostate gland and has had occasion to repeat partial prostatectomy with gratifying palliative results. Isolated instances have been noted in which radiotherapy has brought about shrinkage of the gland and retardation of growth but in general the

* Read before the Upper Peninsula Society, Ironwood, Michigan, August 7, 1929.

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physical agents have not been productive of much palliation in cases of true carcinoma of the prostate gland.

Many problems present themselves in the treatment of benign prostatic hypertrophy. The prostatic age may be considered as embracing the years after fifty. Occasionally true adenomatous hypertrophy with partial obstruction at the vesical neck is encountered before the age of 50, but for the most part it may be considered a disease of degeneration, although the pathologic processes in the benign lesions are not necessarily degenerative. Some time ago I reviewed records of 1973 cases at The Mayo Clinic in which prostatectomy had been done. In this series the average age was slightly more than 63 years, but there were almost as many patients who were aged more than 65 as there were less than that age. Although the average mortality rate for the series was 5 per cent, the mortality rate for prostatectomy in patients aged more than 65 years was 6.3 per cent as compared to 3.9 per cent in patients aged less than 65 years, or nearly twice as great. Furthermore, the mortality rate was found to rise rapidly after the age of 70, and to attain about 17 per cent at the age of 85 years. It is readily apparent that the degenerative processes in vital organs, particularly in the cardiovascular and renal systems in the aged patient, exert a profound influence on mortality, and these contribute materially to the problems associated with the successful management of prostatic obstruction.

In the evolution of methods of treating prostatic obstruction certain principles have become definitely defined. Experience has shown that without preoperative preparation a patient may not be operated on for the removal of an obstructing prostate gland with the maximal degree of safety. Also a patient may not be operated on with the maximal degree of safety until stabilization of the renal function has been established within or approximating normal limits. Furthermore, individualization is necessary; routine measures cannot be safely adopted and all patients cannot be treated preoperatively or surgically by the same methods and surgical procedures.

In the treatment of benign prostatic obstruction the aim is to restore function and at the same time preserve life. Modern methods of prostatectomy for obstructing lesions of the prostate gland are highly satisfactory for the restoration of function; however, the preservation of life under the circumstances of prostatectomy presents many problems, chiefly because of the presence in many instances of associated organic disease coincident with prostatic obstruction, and the hazards of surgical procedures in patients in the prostatic age.

As prostatic hypertrophy develops and mechanical obstruction occurs at the vesical outlet, usually not suddenly, but with progressively greater difficulty in voiding and emptying of the bladder and interference with the normal function of the bladder, back pressure on the kidneys occurs with resultant injury to renal function. Cardiovascular changes are practically always present in the prostatic age and these tend to become more pronounced after prolonged urinary difficulty has caused renal insufficiency, and the result may be the so-called cardiovascular-renal syndrome so often encountered with prostatic obstruction. In other words, unquestionably a reduction of the cardiovascular-renal reserve has occurred which affects all vital functions of the body. In the case of prostatic obstruction there is not only mechanical obstruction at the neck of the bladder, but there is impairment of all bodily functions. In the light of present knowledge of the cause and effect of such disease it is not reasonable to assume that the patient is in a state of adequate organic reserve to withstand, without considerable risk, the insult of a major surgical procedure or that recovery in all cases will immediately follow surgical removal of the prostate gland.

In certain cases of prolonged prostatic obstruction irreparable injury has occurred to vital organs, and never by adequate management may the patient be brought to a state of health whereby prostatectomy may be undertaken with any degree of safety. However, in the majority of instances, preoperative treatment results in the restoration of bodily functions within a normal state or approaching it, so that operation may be undertaken with a reasonable degree of safety.

Facilities are at hand for the relief of urinary retention and back pressure on the kidneys and for stimulating return of function to the renal apparatus within its organic capacity (the extent of which is dependent on whether or not irreparable injury has occurred), and coincidentally reducing the cardiovascular stress, with general improvement in bodily functions. For the relief of urinary retention and back pressure on the kidneys, an indwelling urethral catheter is preferred; immediate suprapubic cystostomy should be reserved as

a procedure of necessity only in those cases in which the urethra is impassable to the catheter. Even though conditions may be such that the divided or two-stage operation is subsequently decided on as the operation of choice or necessity for actual removal of the gland, gradual decompression is usually best instituted by the indwelling urethral catheter preliminary to the cystostomy or first stage of the two-stage prostatectomy. Stimulation of renal activity is best accomplished by increasing body fluids. As Bugbee has said, water is the best drug; if necessary it should be given by rectum, subcutaneously, or, still more effectively, intravenously. Except in cases in which there is marked impairment of the kidneys, renal function rapidly improves after drainage of the bladder and the administration of adequate amounts of water. During this period of preoperative management the case may be considered largely medical, and the surgeon and urologist may advantageously honor the valued co-operation of the internist. His observation of the patient and interpretation of clinical and laboratory data pertaining to the cardiovascular-renal and other vital organic functions has in recent years contributed much to the preservation of life in these cases.

The length of time these preliminary measures are necessary before prostatectomy may be done depends on how rapidly response has occurred in increasing organic reserve. The renal functional tests, the status of the cardiovascular system, and the general condition of the patient, all require consideration in determining the time and method of operation. The blood urea and the estimation of phenolsulphonephthalein return are indispensable and of greatest value when repeated at frequent intervals and interpreted in their relation one to the other. The information obtained from tests of renal function provides only a relative, not an accurate, estimate of renal function. Phenolsulphonephthalein has proved of greater value in recent years through the employment of the fractional method of collecting the urine every 15 or 30 minutes after its administration, and noting the time of appearance and the rapidity with which the dye is excreted. The amount of dye excreted at the end of two hours is of secondary importance. Delayed excretion, even though excretion is adequate at the end of two hours, is indicative of incomplete stabilization, and delay and low percentage of excretion at the end of two hours denotes poor renal function, as does persistently high blood urea. To my knowledge a test is not available which measures renal reserve. Sufficient renal function has been present to provide normal values in the functional tests in cases in which uremia has been known to develop rapidly after operation; in such cases renal reserve was counted on because of the normal functional tests, which in reality did not exist. It may be stated as a general working rule, so far as the functional tests are concerned, that delayed excretion of phenolsulphonephthalein with a total output in two hours of less than 20 per cent, and blood urea of more than 50 mg. for each 100 c.c., should cause one to consider the situation most carefully before recommending prostatectomy with a legitimate degree of safety. Stabilization of renal functional tests within normal limits is most essential. So far as the cardiovascular system is concerned, malignant hypertension and cardiac decompensation present practically the only contraindications to prostatectomy, assuming that with other forms of cardiovascular disease the tests of renal function and the general condition of the patient are satisfactory. Great improvement of impaired cardiovascular states has been noted after drainage of the bladder and restoration of renal function, with general improvement of the patient. Electrocardiographic studies in conjunction with clinical observation provide relatively accurate methods of determining the capacity of the heart to withstand operation, and the internist may accomplish much during the preoperative period of treatment. Even though the tests of renal function and the condition of the cardiovascular system seem satisfactory, it is important that the patient's general condition also should be satisfactory. Vigor, strength, good appetite, and so forth, are essential. During the period of catheter drainage every effort should be made to stabilize bodily function.

Lesions of the urinary tract are often associated with prostatic obstruction, and during the period of observation roentgenologic examination may disclose stones in one or the other kidney, ureter, or bladder. At The Mayo Clinic stones in the bladder are associated in 10 to 12 per cent. Likewise diverticula of the bladder varying in size from a capacity of 30 c.c. to that of the bladder are associated in 5 to 7 per cent. The presence of diverticula may be ascertained by cystoscopic examination or cystogram, preferably the latter unless some contraindication exists. Cystoscopic

examination in the presence of surgical prostatic obstruction is not without its hazards, and it is best that it be most discriminately employed. Unless one cannot determine by other methods the absence or presence of suspected associated lesions, and cannot be certain that prostatic enlargement is responsible for urinary retention, pyuria, hematuria, and so forth, a cystoscopic examination may well be reserved for the doubtful cases rather than making it as a routine in all cases. If multiple or large stones are associated and there is considerable cystitis, or if there are single or multiple surgical diverticula, they are usually best dealt with at a primary operation, and not simultaneously with prostatectomy.

Causes of death following prostatectomy in order of frequency are uremia, hemorrhage and general sepsis. The preoperative measures instituted in modern methods obviate postoperative uremia to a large extent and have resulted in marked reduction in mortality from this complication; however, uremia still is a hazard because of inability to estimate renal reserve by any method. Drainage of the bladder and improvement in operative and postoperative methods have markedly reduced the incidence of general sepsis as a cause of death; however, it still occurs. Death from hemorrhage may occur early or late postoperatively. It is well known that patients with disease of the prostate gland do not stand loss of blood well, probably because of the ease with which the stability of bodily function may be disturbed by virtue of age or low organic reserve through loss of blood volume and disturbance of blood pressure. In the prostatic age the resiliency of the circulatory system and the powers of accommodation to marked reduction of blood volume and disturbance of blood pressure are reduced. Large massive operative or postoperative hemorrhage rapidly results in inhibition of renal function and, even though blood is replaced by transfusion, death may occur, if not immediately, 24 to 72 hours later. Inadequate control of operative bleeding may, by continued loss of blood during the course of several days, so deplete the patient and reduce resistance to infection that general sepsis occurs, to which death may be attributed but which in reality was precipitated by loss of blood.

The requisites for a satisfactory result following prostatectomy are complete removal of the obstructing lesion, accurate hemostasis, and adequate urinary drainage. In the hands of those qualified in the respective methods I believe that results are equally good and the mortality equally low whether the operation is performed by the suprapubic or the perineal route. However, I am certain that unless the operator is particularly trained and adept in performing the perineal operation his results will be better by the suprapubic route. Whether the suprapubic operation should be done in one stage or in two stages is largely dependent on the conditions under which the surgeon works, the method he prefers, and in which he believes he obtains the best results, and lastly on the condition of the patient. I consider the one-stage suprapubic operation the one of choice and the two-stage operation the one of necessity.

To remove the prostate gland simultaneously with a good-sized diverticulum or at the time that large or multiple stones are removed in the presence of considerable cystitis subjects the patient to unjustifiable risk, and it has been my practice under such conditions to reserve prostatectomy for a second stage. Likewise about 6 per cent of patients are intolerant to an indwelling urethral catheter and in order to provide necessary drainage preliminary cystostomy is required. The aged, who are feeble and whose organic reserve is at low ebb, withstand the divided operation better, or at least the preliminary cystostomy serves as a test of organic reserve. In many instances the cystostomy is as serious a procedure for the patient as prostatectomy, not because of the magnitude of the operation, but because of the condition of the patient at the time cystostomy is performed. Cystostomy is not without risk. Lowsley recently reported a large series in which it was done for prostatic obstruction with a mortality of 8 per cent. During 1928 at The Mayo Clinic in a series of 125 cases in which simple cystostomy was done for benign prostatic obstruction there were five deaths, a mortality rate of 4 per cent.

In the absence of any of the foregoing indications for the two-stage operation of necessity, it is preferable to prepare the patient for the one-stage operation by a permanent indwelling urethral catheter. In the one-stage visualized operation the obstructing lesion can be removed completely, leaving a clean prostatic capsule, smooth circumference of the neck of the bladder, free of tags, bars, and so forth, and facilitates accurate hemostasis, in a manner of thoroughness which is not approached by

the blind two-stage operation of necessity. The formation of stricture is rare, wounds heal early, and for the most part convalescence is uncomplicated. Operative hemorrhage in most cases is adequately controlled by suture of the neck of the bladder, as advocated by Cabot, and the use of the Pilcher bag in the prostatic capsule.

The elimination of general anesthetics in recent years has contributed much to the safety of prostatectomy. Sacral anesthesia, supplemented with abdominal field block, for the suprapubic operation has proved most satisfactory. In recent months I have used spinal anesthesia with control of blood pressure by ephedrine; relaxation and anesthesia have been gratifying, and there have been relatively few reactions. Ephedrine control of blood pressure has materially increased the safety of spinal anesthesia in this field of surgery.

In general, postoperative measures are instituted as indications arise. The free administration of fluids is essential, adequate urinary drainage is readily maintained when operative hemostasis has been accurate, and the urine is clear immediately after operation. Blood-tinged urine and blood clots indicate inadequate hemostasis and interfere with proper postoperative drainage of urine. Complications occur occasionally under most adequate preoperative preparation and skillful surgery, for a major operation has been performed at an average age approximating closely the allotted three score and ten.

Postoperative epididymitis may be obviated by division and ligation of the vas deferens; this is a procedure which has been adopted by many as a routine before the institution of catheter drainage. In the one-stage operation ligation of the vas is readily accomplished at the external inguinal ring through the median-line incision at the time of prostatectomy and I believe is a justifiable procedure for most patients beyond the age of 60 or 65. As yet I have not felt justified in adopting it in all cases.

Mortality cannot be entirely avoided; however, modern methods of management have resulted in a marked reduction of the hazards. Formerly when tests of renal function were unknown, when the effects on the vital organs and functions of the body of urinary retention were not recognized, and while work in prostatic surgery was in the pioneer state, the mortality was largely in the hands of the surgeons. Today, with the knowledge of cause and effect of urinary retention, with methods at hand of relative determination and measurement of organic function, with well defined principles of treatment, and with accurate operative methods, the responsibility for a mortality rate in excess of 5 per cent rests largely with the patient. There are not many complications that warrant delay of prostatectomy once benign prostatic obstruction has developed. The effects on the function of vital organs of prolonged prostatic obstruction and urinary retention are well known, and the end result is so sure that operative relief should not be withheld until irreparable injury to the cardiovascular and renal systems has occurred. Only through the institution of modern methods of treatment after symptoms of prostatic obstruction have occurred may the patient be afforded the opportunity of obtaining a good functional result at a minimal risk.

INFANTILE PARALYSIS CURE IS METHOD OF PREVENTION

The best hope of curing the paralysis and serious crippling which follow an attack of poliomyelitis, or infantile paralysis, lies in early preventive measures, Dr. Lloyd W. Aycock of the Harvard Medical School declared in an analysis of the disease. This means that treatment must be begun before the nerve cells have been destroyed. Hence the plea physicians are making for early diagnosis of the disease. "The paralysis itself is due to the destruction of the nerve cells in the spinal cord which govern the movement of muscles," said Dr. Aycock. "When these nerve cells are destroyed, the muscle with which they are connected loses entirely its power to function. It is like a telephone which may be in perfect order itself, but which cannot function without a wire leading to it from the telephone exchange."

Once the paralysis has occurred, it is too late to cure it, although patient treatment and care and exercise can do much for the affected muscles. The paralysis is practically allways preceded by certain definite symptoms. It is during this preparalytic stage, before the nerves have been destroyed, that there is a chance of cure. The onset of the disease is usually abrupt, with fever, headache and stomach and intestinal upset and the child is drowsy and wants to be let alone.

The child is usually more prostrated than usual with the degree of fever, which is generally not over 102 degrees Fahrenheit. An anxious expression of the face, tremors and twitchings of the muscles and a sort of uncertainty in movement of the arms and legs are characteristic of this disease in the early stages.

The most suggestive sign is stiffness of the spinal column and neck. The latter will be held rigidly and often the child cannot sit up comfortably without propping himself up on his arms. —Science Service.

SPONTANEOUS ENTERO-ANASTOMOSIS OF ILEUM AND JEJENUM—REPORT OF CASE*

PAULINE BEREGOFF, PH. G., M. D.
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A careful search of literature has shown only two cases of spontaneous entero-anastomosis reported. Brash** reported a case of spontaneous exclusion of cecum in a girl of 21 years. The symptoms were of intestinal obstruction indicating surgical intervention. In the same report he relates about a similar case observed by Pullman. Spontaneous entero-anastomoses, experimentally produced in rabbits, were reported by Belzeller and Szillard†. Our case is of interest because it differs from the other cases on record, by the fact that we did not suspect to find pathology along the gastro-intestinal tract when the patient died, and that the entero-anastomosis, incidentally found during a post mortem examination, existed for some time, presenting healed lesions at the areas of anastomosis.

CASE REPORT

W. D., aged 62, was admitted to the State Hospital, September 1904, suffered from convulsions, diagnosed to be of epileptic form. His physical condition at the date of admission was good. Within a short time of rest, the convulsions disappeared but the patient remained at the hospital to do light work. Occasionally he would complain of gastric disturbances, diarrhea alternating with constipation with some abdominal pain, but as he did not appear to suffer considerably, not much attention was given to the complaints. In 1925 he had a slight stroke with the result of

Figure 1
Spontaneous Entero-Anastomosis of Ileum and Jejenum

a partial paralysis of the left side. He had a moderately enlarged heart with a slight systolic aorta murmur. The pulse was irregular but of good volume. The blood pressure was 200 systolic and 100 diastolic. He stayed in bed for several months, never regaining complete use of left arm and leg, but was able to do light work. December 10, 1928, I saw the patient for the first time, when he was admitted to the surgical ward complaining of severe pain in the right upper abdomen. He had a slight elevation of temperature, white count 1200 with a polynuclear count of 82 per cent. The red count and hemoglobin

Figure 2
Spontaneous Entero-Anastomosis of Ileum and Jejenum

were normal and the Wassermann ++. On physical examination, a very much enlarged heart was revealed with a marked systolic aortic murmur. The man was robust. Within several days he started to run a septic temperature and presented typical symptoms of a cholecystitis. The white count ranged between 30,000 and 38,000. The Van-Den-Bergh was directly positive and the blood culture showed bacilli with cultural characteristics of B. Coli. The surgeons in consultation advised against operation as they suspected an aortic aneurism. The patient apparently showed improvement under medical treatment until January 6, 1928, when he complained of sudden severe pain throughout the abdomen, vomited several times and died the next day. A partial post mortem, comprising the abdominal cavity, was permitted.

* From the Department of Pathology of the State and General Hospitals, Traverse City, Michigan.

**Brash: Spontaneous Exclusion of Cecum. Med. Klin., 22: 1956-1957, December 17, 1926.

† Belzeller, L, and Szilard, Z.: Spontaneous Entero-anastomosis Wien. Klin. Wchnschr., 35:1006-1007, December 28, 1922; Ab. J. A. M. A., 80:735, March 10, 1923.

POST MORTEM

A well developed and nourished man of about 65 years. The face and entire body showed a marked icteric tinge. Pupils were equal but cloudy. Teeth in very poor condition. The vessels of the neck were extremely dilated and showed marked sclerotic changes. The chest very well developed. The abdomen distended and rigid. The extremities presented moderate edema of the ankles. On opening the abdomen, the peritoneum was found adhered to the omentum that walled off the ascending colon, stomach and gall-bladder. It was also greatly adhered to the omentum that walled off the ileum. A large amount of pus, of colon color, filled the abdominal cavity in the region of the gall-bladder. The gall-bladder was phlegmonous, ruptured and the liver showed areas of necrosis. The stomach presented no evidence of pathology. The peritoneal adhesions were carefully dissected from the omentum that covered the small intestines. The adhesions appeared to be of long duration. A coil of the ileum was found connected with one of the jejenum forming a lateral entero-anastomosis. (Fig. 1). Although the ileum showed a stenosed lumen of 3 m.m. in diameter, yet there was free connection between both parts of the intestine. (Fig. 2). Sections that were taken from the areas of anastomosis, presented chronic inflammatory changes and a great deal of scar tissue. Many sections were examined from different areas of the intestinal tract, all showing some chronic inflammatory changes at different areas of the section. There was no evidence of tuberculous infiltration nor malignancy. Cultures of the pus from the gall-bladder showed B. Coli. The heart was examined by penetrating the diaphragm. The organ was large, firm, and showed marked arteriosclerosis of the aorta but no aneurism. The kidney and spleen showed old infarcts, the spleen was converted into a fibrous tumor. All organs showed inflammatory changes.

Undoubtedly our patient had suffered from an enteritis for some time, and an ulcerated area of the ileum or jejenum that was walled off by omentum, came in contact with the other coil of the intestine, which was probably inflamed, forming an anastomisis. It is most probable that this condition existed a long time and that the cause of the convulsions was due to intestinal toxemia instead of epilepsy. That the condition of the gall-bladder is to be attributed to an excecerbation of a chronic inflammatory process that existed in the organ since the intestinal infection and that the cardiac condition was of the same cause.

NOTE: I wish to thank Dr. G. F. Inch, the superintendent of the hospital, for his permission to study up this case.
—P. B.

EXPERIMENTAL STUDIES OF THE COMMON COLD

The "common cold" has several characteristics that lead to its classification as an acute infection of the upper respiratory tract. Consequently, many efforts have been made to isolate and identify the etiologic agent—obviously desirable steps in the attempts to master an unquestionably disastrous human malady. The study of the flora of the upper respiratory tract in conventional ways during health and disease has led to the isolation of a considerable number of familiar bacteria, but on the whole the results have not been sufficiently specific to permit the bringing of a charge of special responsibility against any of the identified microbial species. Investigations of this character are usually greatly facilitated by the discovery of an experimental animal in which the characteristic disease manifestations either occur naturally at times or can be produced at will in the laboratory. This is well illustrated in the history of the investigations of tuberculosis and anthrax, for example.

In the case of the common cold there are somewhat analogous disorders widely recognized among the domestic animals. However, such animal diseases as distemper in dogs and snuffles in rabbits, though having a certain resemblance to the human disease, have seemed in all probability to be too dissimilar from an etiologic point of view to be of immediate value. In a search for a type showing closer resemblance to the human disease, Dochez and his associates at the College of Physicians and Surgeons, New York, recently discovered that the "common cold" of man or something closely resembling it from a clinical standpoint apparently occurs among the anthropoid apes. There were indications, too, that such animals, while not under quarantine, have contracted upper respiratory infections presumably from chance human contacts. The symptoms usually began with a discharge of mucus from both nostrils, accompanied by occasional attacks of sneezing. During the act of sneezing, considerable amounts of mucus were blown from the nostrils. Somewhat later the nares became obstructed and the breathing audible. In from three to five days a cough frequently developed, lasting sometimes as long as two weeks. In some instances the discharge of mucus became purulent and continued from one or the other nostril for as long as three weeks. There was some lassitude and loss of appetite and occasionally diarrhea. The temperature was seldom elevated and then only to an insignificant degree.

Thus given an experienced laboratory species susceptible to human "colds," the New York investigators have now demonstrated that filtered nasal washings obtained from human beings suffering with typical colds when injected intranasally into apes produced typical colds in about half of the instances attempted. In all positive experiments, gram-negative anaerobes of the type described by Olitsky and Gates were cultivated. However, etiologic significance was not assigned to these organisms. Control tests with washings of healthy persons were uniformly negative. In contrast with the changes noted in the positive transmission experiments there were no changes noted from the characteristic normal flora of their noses and throats. There was an entire absence of even small amounts of nasal mucous discharge following inoculation. The various observations thus collected seem, in the words of these most recent investigators of an admittedly difficult problem, to lead rather strongly to the assumption that the type of upper respiratory tract infection under consideration is caused by a filtrable virus.—Jour., A.M.A.

MEDICAL RETROSPECT AND FORECAST—1929-1930*

A poisonous sugar, the only sugar known that has a toxic reaction, was discovered in tuberculosis bacilli by Dr. R. J. Anderson, Yale University chemist.

A lifeless compound, extracted from mass cultures of tuberculosis germs, produced bodily changes like those of tuberculosis in experiments conducted by Doctors Florence R. Sabin, Charles A. Doan and C. E. Forkner, of the Rockefeller Institute for Medical Research.

Dried hog stomachs were discovered by Doctors C. C. Sturgis and Raphael Isaacs of the University of Michigan and Dr. E. A. Sharp of Parke, Davis & Co., to have the same effect in the treatment of pernicious anemia as the raw liver now widely used.

The Imperial Cancer Research Fund reported that they could find no connection between malignant growths and dietetic deficiencies.

A young woman physiologist with the unique respiration rate of three to four times a minute, instead of the usual fifteen to eighteen times a minute, was studied by Dr. Frances G. Benedict of the Nutritional Laboratory of the Carnegie Institution of Washington at Boston.

Pepsin, the digestive enzyme, was crystallized and isolated by Dr. J. H. Northrop of the Rockefeller Institute for Medical Research laboratories at Princeton, N. J.

Progress in studying and photographing in motion pictures the growth progress of cells and mammalian eggs was continued by the Department of Embryology of the Carnegie Institution of Washington at Johns Hopkins University in Baltimore.

Only 6 of the 40 species of Anopheles mosquitoes are important as carriers of malaria, Prof. Francis Metcalf Root of Johns Hopkins Hospital University discovered.

Prof. John J. Abel, who was the first to isolate pure crystalline insulin, made the discovery that only a part of the complex insulin molecule is necessary to combat diabetes.

That liver contains a substance which will reduce the concentration of sugar in the blood, as insulin does, was reported by Doctors Harry Blotner and W. P. Murphy of the Peter Bent Brigham Hospital, Boston.

Surgical control of Raynaud's disease was apparently attained by Dr. A. W. Adson and Dr. G. E. Brown of the Mayo Clinic.

During the winter of 1928-1929 there occurred an epidemic of influenza which, though mild as compared with the epidemic of 1920 and the pandemic of 1918-19, reached most of the countries for which mortality statistics are available.

An abnormally large number of cases of cerebrospinal meningitis occurred in the United States; the outbreak was traced to an origin in the Orient.

An outbreak of smallpox occasioned considerable alarm in England during the spring.

The work on the regular decennial revision of the U. S. Pharmacopoeia was begun.

Dr. Oliver Kamm, research director of Parke, Davis & Co., was awarded a prize of $1,000 by the American Association for the Advancement of Science for his research in isolating the hormones of the pituitary gland.

The Nobel Prize in medicine for 1929 was awarded to Prof. Christian Eijkman of the University of Utrecht and to Sir Frederick Gowland Hopkins of the University of Cambridge for their researches on the vitamins.

Plans were made, committees formed and work begun on "the most sweeping study of child welfare that has ever been made in all the world", the results of which will be presented at the White House Conference on Child Health and Protection in 1930.

Dr. Joseph Goldberger, discoverer of the cause, cure and means of prevention of pellagra, died on January 17. His widow was granted a pension of $125 per month by Congress.

* This article has been furnished The Journal of the Michigan State Medical Society by Science Service.

Mme. Marie Curie, co-discoverer of radium, visited America to attend scientific functions and to receive a gift for the purchase of a gram of radium for the Warsaw Cancer Hospital.

The International Society for the Prevention of Blindness was formed at a conference at The Hague in September.

A department of the history of medicine, the first one in this country, and the allied William H. Welch Medical Library were dedicated at the Johns Hopkins University.

The Wilmer Ophthalmological Institute of the Johns Hopkins University, the only such center in the country having its own building for treatment, research and teaching in diseases of the eye, was dedicated at Baltimore.

The narcotics division of the U. S. Public Health Service was established in February.

Report was made by Dr. Isadore S. Falk of the University of Chicago that he had isolated a group of micro-organisms that he believes were the causative agents of influenza during the 1928-29 epidemic.

A method of immunizing dogs against distemper by double inoculation was developed by Doctors P. P. Laidlaw and G. W. Dunkin of London.

Solution of problems of new diseases and also of some of the old, familiar ones are hoped for by medical scientists during 1930. The ever-widening extent of undulant fever, the threat of a meningitis outbreak, the increase of malaria and pellagra in the south will be subjects of study and investigation in laboratories and in the field during the coming year. Progress in the control of one or all of these is to be looked for, public health experts believe.

New and possibly radical methods of caring for children may be evolved by members of the various committees who will be making intensive studies of child welfare for report at the White House Conference on Child Health which will meet late in the year. The personnel of the committees includes outstanding leaders in every branch of the field, so that their concerted studies are expected to be of enormous value and significance.

Progress in pharmacy will be considerable, due to the decennial revision of the U. S. Pharmacopoeia which will take place during 1930. Marked and important changes in the character of modern pharmacy may also be expected. An increase is foretold in the number of purely professional pharmacies or chemists' shops, planned along the lines of the old-time ones with only such modern improvements as pertain exclusively to the practice of pharmacy.

In view of the earnest scientific effort being expended throughout the world in cancer research, progress will undoubtedly be made in this field, though it is perhaps too much to hope that the discovery of a "cure" will be made in the new year.

The Ransdell bill for the establishment of a National Health Institute will doubtless come up before Congress during 1930. Should this bill become a law, public health activities will take a big step with possibly far-reaching consequences.

A chemical reagent capable of detecting minute amounts of dread mustard gas in the air will probably be made during the coming year as a result of the competition sponsored by the International Committee of the Red Cross.

PREVENTING DEFORMITIES OF CHRONIC RHEUMATISM

Preventive medicine has accomplished much in the way of reducing the death and sickness rates of many common diseases, but a large field for further effort lies in the prevention of the crippling deformities of chronic arthritis, or plain ordinary rheumatism as it is known to the vast majority who suffer from it. The need for such preventive work is emphasized and methods described in a report made to the American Medical Association by two Boston physicians, Doctors Loring T. Swaim and John G. Kuhns.

"Correction is possible to a small degree at any stage of the disease," these doctors said of the deformities. However, they concluded as follows: "Correction never compares with the results of prevention, in our experience. Early protection in good position, and rest, with light normal use, are the only measures to prevent deformities in arthritis." The position during sleep is especially important, and the patient should rest in a position least likely to cause strain or contracture, the physicians explained. Motion should be encouraged but never forced. The best form of motion will be obtained by the patient's using the joint for normal purposes as much as he is able. One of the measures suggested for arthritis of the shoulder is as follows: The patient, when in bed, places his hands under his head with the bent elbows stretched out on the bed. This should be done for short periods several times daily.—Science Service.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner
LANSING, MICHIGAN

COMMUNICABLE DISEASES IN 1929

Communicable disease figures for 1929 are still tentative and subject to correction with later reports, but they show interesting trends. There was a general increase of 1,095 cases reported during the year.

The greatest increase was in scarlet fever. A total of 14,229 cases were reported in 1929 in contrast to the 10,312 of 1928, a gain of 3,917 cases.

The increase in meningitis, which reached epidemic proportions in some parts of the state, amounted to almost 1,600 cases. In all, 1,859 cases were reported during 1929 compared with 265 in 1928, and with a five year average of 156 cases.

Smallpox also showed a gain of more than 1,000 cases, with 2,421 cases credited to 1929 and only 1,306 to 1928. The five year average for this disease is 1,726 cases.

Syphilis showed an increase of almost 1,300 cases, and gonorrhea a gain of 908 cases.

The year 1928 was a peak year in measles, there being in excess of 26,000 cases reported. This was reduced to 18,000 in 1929, a decrease of almost 8,600 cases. Whooping cough also showed a decrease, and it is interesting to note that typhoid fever, which is regarded by many authorities as the one disease that may be considered the index of efficiency of sanitary control, showed a decrease of 74 cases. This was almost 20 per cent.

On the whole, the Michigan Department of Health had reports of 91,321 cases of communicable disease, not including the minor diseases such as chicken pox and mumps, during the year 1929. This compares not very unfavorably with the total of 90,226 cases for the same group of diseases in 1928.

It is interesting to note that there was an increase in the number of cases of tuberculosis reported, 6,248 in 1929 and 5,985 in 1928. This probably does not mean any increase in the actual number of cases that existed but only an increase in the efficiency of reporting under the new law.

The tabulated report follows:

REPORT OF THE PREVALENCE OF DISEASE FOR THE YEAR 1929

	Cases Reported			
	December 1929	1929	1928	Average 5 yrs.
Pneumonia	495	7,439	7,373	5,937
Tuberculosis	544	6,248	5,985	5,654
Typhoid Fever	12	319	393	668
Diphtheria	481	4,562	3,821	4,743
Whooping Cough	424	9,332	9,793	7,632
Scarlet Fever	1,098	14,229	10,312	11,855
Measles	494	18,130	26,728	20,922
Smallpox	269	2,421	1,306	1,726
Meningitis	70	1,859	265	156
Poliomyelitis	9	183	75	242
Syphilis	1,131	16,606	15,323	14,739
Gonorrhea	634	9,661	8,753	9,953
Chancroid	26	332	99	119
Total	5,687	91,321	90,226	84,346

—W.J.V.D.

THE MIDLAND COUNTY HEALTH DEPARTMENT

On January first the new Midland County Health Department began operations, with Dr. D. E. Camp as health officer and Deborah Veneklasen as public health nurse. The department was authorized at the October meeting of the board of supervisors. Headquarters are at the Court House.

EXAMINATION OF TAXICAB DRIVERS

The law requiring the examination of all "drivers of motor vehicles used for the conveyance of passengers for hire" specifies that the certificate issued by the state commissioner of health shall be good for only two years. Since the law has been in effect for that length of time, re-examination of all such drivers is now necessary.

All members in good standing of county medical societies were designated by the state board commissioner of health as the official examining staff provided for by the law. Blanks for the examination may be secured from the Michigan Department of Health.

PREPARATIONS FOR THE NEW STATE HOSPITAL FOR THE INSANE

A topographical survey of the 1,200 acres comprising the tract of land near Saline recently acquired by the state for a new state hospital for the insane is nearing completion. A staff of 10 men has worked for six weeks, and the survey findings will be ready for the architect as soon as the last work on the valley of the Saline River is completed.

MOUTH HYGIENE

Work in the Bureau of Mouth Hygiene is proceeding along the same lines as have been followed in previous years. Educational material is furnished to schools, public health nurses, and health workers in general. Emphasis is always placed upon the development of local resources

and local initiative, and the utilization of existing agencies.

As much time as possible is spent by the director in the field. From September 1st to December 31st the following places were visited: Berrien County, 100 per cent schools; Detroit (two meetings of Children's Fund Dental Committee); Ann Arbor (two meetings of Joint Committee on Health Education); Ionia (twice); Dearborn; Washington, D. C. (National Dental Association); Alanson; Harbor Springs; Pellston; Levering; Petoskey; Haslett; Flint; St. Johns (three times); Williamston; Zeeland; Macomb County (twice, teachers' meetings); Pleasant Grove; Okemos; Webberville; Northport; Traverse City; Charlevoix; Mancelona; Kalkaska; Cheboygan; Onaway; Hillman, Alpena; Grand Rapids; Lake City; Cadillac; Frankfort; Manistee; Ludington.

Activities have consisted of lectures before schools, Parent-Teacher Associations, women's clubs, child study clubs, noon-day clubs, etc., and consultations with school superintendents, teachers, nurses, dentists, and health officers. In almost every place visited, a demonstration examination of elementary grade school children was made before a selected group.

Interest and co-operation have been excellent.—W. R. D.

CHILD HYGIENE NOTES

The field study of the 1620 maternal deaths occurring in Michigan between July 1, 1926, and December 31, 1928, was completed in December.

The board of supervisors of Ottawa County at their October meeting appropriated $1,500 to defray in part the expenses of the prenatal nurse, Miss Caroline Hollenbeck. This fund became available January 1.

CONDENSED MONTHLY REPORT

December, 1929

Michigan Department of Health Laboratories

	+	—	+—	Total
Lansing Laboratory—				
Throat Swabs for Diphtheria				1045
Diagnosis	24	593		
Release	44	172		
Carrier	7	205		
Virulence Tests	19	5		24
Throat Swabs for Hemolytic Streptococci				472
Diagnosis	129	131		
Carrier	23	189		
Throat Swabs for Vincent's	49	564		613
Syphilis				7097
Kahn	1031	5971	85	
Wassermann	2	7	1	
Examination for Gonococci	157	1619		1776
B. Tuberculosis				440
Sputa	64	376		
Animal Inoculations				
Typhoid				185
Feces	2	83		
Blood Cultures	2	45		
Widals	3	46		
Urine		4		
B. Abortus				49
Dysentery				11
Intestinal Parasites				32
Transudates and Exudates				299
Blood Examinations (not classified)				154
Urine Examinations (not classified)				166
Water and Sewage Examinations				310
Milk Examinations				14
Toxicological Examinations				5
Autogenous Vaccines				4
Supplementary Examinations				220
Miscellaneous Examinations				621
Unsatisfactory Specimens				167
Total for the Month				13704
Cumulative Total (Fiscal year)				99201
Increase over this month last year				296
Houghton Laboratory—				
Examinations made — Total for the Month				1778
Cumulative Total (fiscal year)				11870
Increase over this month last year				392
Grand Rapids Laboratory—				
Examinations made — Total for the Month				7102
Cumulative Total (fiscal year)				38539
Increase over this month last year				829
Typhoid Vaccine Distributed, c. c.				2600
Diphtheria Antitoxin Distributed, units				27509000
Silver Nitrate Ampules Distributed				10220
Scarlet Fever Antitoxin Distributed, Pkg.				176
Scarlet Fever Toxin Dick Test Distributed, c. c.				1960
Scarlet Fever Toxin Immunization, c. c.				2983
Smallpox Vaccine Distributed, points				11595
Bacteriophage Distributed, c.c.				1896

MENTAL TESTS FOUND USEFUL BAROMETER IN MENTAL DISEASE

Intelligence tests given to mentally ill patients from time to time are a useful barometer to measure their progress toward normality, or their sinking back into more serious abnormality, Dr. Emmett L. Schott, of the Henry Ford Hospital at Detroit, told doctors attending the sessions of the American Association for the Advancement of Science at the Des Moines meeting recently.

Normal persons do not vary much in intelligence from year to year. Patients suffering from mental and nervous maladies, however, frequently lose many points in their ability to meet the requirements of intelligence tests, Dr. Schott's records show. Gains in ability to pass the tests are useful indicators of mental improvement in such patients, he has found.

Describing particularly a number of cases of general paresis, Dr. Schott said that one woman had a mental age of almost fifteen years when first tested. After a year during which she had no treatment for her disease she dropped to a mental age of less than thirteen years. Deterioration in such cases is expected, but the tests gave an actual measure of the rapid change. Other cases which went without treatment showed similar rapid mental decline. On the other hand, patients who received the malaria treatment or other special attention for paresis, did not lose ground mentally, and some improved in their mental abilities, the tests showed.—Science Service.

TRUTH ABOUT MEDICINE

TRUTH ABOUT MEDICINE

Dr. J. H. Dempster, Editor,
Journal Michigan State Medical Society,
641 David Whitney Building,
Detroit, Michigan.

Dear Doctor:—

In addition to the articles enumerated in our letter of November 29, the following have been accepted:

E. Bilhuber, Inc.—"Lenigallol-Zinc Ointment."

Cutter Laboratory—"Scarlet Fever Streptococcus Antitoxin-Cutter."

Mead Johnson & Co.—"Mead's Viosterol in Oil 100 D."

H. K. Mulford Co.—"Ampules Sodium Cacodylate-Mulford, ¾ grain, 1 c.c."; "Ampules Sodium Cacodylate-Mulford, 3 grains, 1 c.c."; "Ampules Sodium Cacodylate-Mulford, 5 grains, 1 c.c."

Winthrop Chemical Co., Inc.—"Tablets Tutocain No. 6."

The following article has been exempted and included with the List of Exempted Non-medicinal Articles (New and Non-Official Remedies, 1929, p. 485):

Child Welfare Guild, Inc.—"Bite-X."

Yours truly,

W. A. PUCKNER, Secretary,
Council on Pharmacy and Chemistry.

NEW AND NON-OFFICIAL REMEDIES

Gelatin Compound Phenolized-Mulford. — A mixture composed of gelatin, zinc oxide, glycerin, and water, containing 1.5 per cent of phenol. It is used in the preparation of bandages to cover chronic ulcers, unhealed secondary burns and the preparation of pressure bandages for varicose veins when surgical treatment is not necessary. H. K. Mulford Co., Philadelphia.

Diphtheria Toxoid-Mulford, 30 c. c. vial.—Diphtheria Toxoid-Mulford (New and Non-official Remedies, 1929, p. 369) is also marketed in packages of one 30 c. c. vial. H. K. Mulford Co., Philadelphia.

Typhoid - Paratyphoid Prophylactic, Hospital Packages. — Typhoid paratyphoid prophylactic (New and Non-official Remedies, 1929, p. 379) is also marketed in hospital size packages containing ten complete immunizations. The Cutter Laboratory, Berkeley, Calif.

Ampoule Solution Silver Nitrate 1 Per Cent-Cutter.—Solution silver nitrate 1 per cent, approximately 0.2 c. c., contained in ampules composed of beeswax. They are used for the prevention of ophthalmia neonatorum. Cutter Laboratory, Berkeley, Calif.

Polyanaerobic Antitoxin.—An anaerobic antitoxin (New and Non-official Remedies, 1929, p. 346) prepared by immunizing horses with the toxins of *B. tetani, B. Welchii, Vigrion septique* and *B. oedematiens.* It is marketed in bottles containing 100 c. c., each 100 c. c. containing at least 5,000 units of tetanus antitoxin, 75 units of Welch bacillus antitoxin, and sufficient antitoxin to neutralize 50,000 minimum lethal doses of *Vibrion septique* toxin and 100,000 minimum lethal doses of *B. oedematiens* toxin. Cutter Laboratory, Berkeley, Calif.

Normal Horse Serum Without Preservative.—A normal horse serum (New and Non-official Remedies, 1929, p. 344) marketed in packages of one vial containing 100 c. c. H. K. Mulford Co., Philadelphia.

Thompson's Maltose and Dextrin.—A mixture containing maltose, 51 per cent; dextrins, 45 per cent; sodium chloride, 2 per cent; and moisture, 2 per cent. On the claim that maltose is more readily assimilated than other forms of sugar, Thompson's maltose and dextrin is proposed to supplement the carbohydrate of cow's milk or of water modifications of cow's milk. Thompson's Malted Milk Co., Inc., Waukesha, Wis. (Jour. A. M. A., December 21, 1929, p. 1971.)

PROPAGANDA FOR REFORM

Intramuscular Iron Arsenic Comp. (No. 201) and (Intravenous) Iron, Cacod. and Glycerophosphate (No. 202) Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that a circular with the caption "Formulas of definite therapeutic value" issued by Sci-Medico, Inc., New York, lists an extensive line of preparations marketed in the form of ampules and intended for intramuscular and intravenous administration and includes the following as having "proved useful in the treatment of anemia, nervous debility, neurasthenia, chlorosis and wherever a general tonic is indicated": (Intramuscular) Iron, Arsenic Comp. (No. 201), each 5 c. c. ampule being stated to contain Iron Cacodylate 1-4 grain, Sodium Cacodylate 3-8 grain, Sodium Hypophosphate 3-16 grain, Manganese Hypophosphate 1-24 grain, Sodium Citrate 5-8 grain, and (Intravenous) Iron, Cacod. and Glycerophospate (No. 202) each 5 c. c. ampule being stated to contain "Iron Cacod. (Colloidal)" 1 grain, Sod. Cacodylate 4 grains, Sod. Glycerophosphate 1 1-2 grains. The Council declared these preparations unacceptable for New and Non-official Remedies because they are irrational mixtures marketed with unwarranted therapeutic claims. (Jour. A. M. A., December 7, 1929, p. 1809.)

Tucker's Asthma Specific.—The continued exploitation of this cocaine mixture is a standing disgrace to the federal authorities. The nostrum carries a label admitting the presence of 5 grains of cocaine to the fluid ounce. When the Commissioner of Internal Revenue was asked in 1922 how such a product could be sent without violating the Harrison Narcotic Law, his reply was that the cocaine in the remedy became hydrolyzed before it reached the public, and that when used there was either no cocaine or a very small quantity. This commissioner, at the same time, also gave a fulsome puff for the nostrum expressing the opinion that the mail-order distribution of this product served "a great humanitarian cause" and, for that reason, the Treasury Department was taking no action. This in spite of the fact that the product obviously violates the Harrison Narcotic Law, for if it does not actually contain cocaine it admittedly contains a derivative of cocaine, to which the law also applies. Furthermore, if the product does not contain 5 grains of cocaine to the ounce, then it violates the National Food and Drugs Act. (Jour. A. M. A., December 7, 1929, p. 1829.)

Uviol-Jena Ultraviolet Transmitting Glass Ac-

ceptable.—The Council on Physical Therapy reports that the window glass known as Uviol-Jena, manufactured by Schott and Gen., Jena, Germany, and submitted to the Council by the Fish-Schurman Corporation, New York, is stated to be "a glass which transmits the biological ultraviolet rays of the sun" and "in a thickness of 2 millimeters transmits at the same time of installation about 60 per cent of the ultraviolet rays of a wavelength of 302 millimicrons" and "even after 'solarization' it still transmits about 48 to 45 per cent of these same rays." The Council reports that acceptable evidence in favor of these claims was submitted and hence declares it acceptable for inclusion in its list of accepted devices for physical therapy. (Jour. A. M. A., December 14, 1929, p. 1887.)

Medical Treatment of Cataract.—About every five years, the ophthalmic world is thrilled by the announcement of a new medical cure for senile cataract. This has been going on for at least two hundred years. Boric acid and Glycerin, ethylmorphine hydrochloride, subconjunctival injections of mercuric cyanide, radium, antigenic injections of lens proteins, mixed endocrine glands, sodium iodide in all possible combinations, and so on have all had a trial. Not one of them has been scientifically established as of value and more cataracts are being operated on than ever before. (Jour. A. M. A., December 14, 1929, p. 1910.)

Bichloridol.—Bichloridol is a proprietary preparation of corrosive mercuric chloride suspended in a "palmitin" base, intended for intramuscular administration. It is sold in compressible ampules called collapsules. This preparation was formerly marketed by the H. A. Metz Laboratories, Inc., but is now marketed by the Duke Laboratories, Inc. In 1925 the Council on Pharmacy and Chemistry rejected Bichloridol because it was marketed with indefinite statements of composition and under a nondescriptive name. The A. M. A. Chemical Laboratory reports that it analyzed Bichloridol because of inquiries received, one inquirer writing, "One half to one grain a week gives practically no reaction and likewise mighty little therapeutic effect." The Laboratory found the preparation to contain only from one-fifth to one-tenth of the mercuric chloride claimed. The laboratory points out that a discrepancy of this magnitude is inexcusable and comments on the desirability of physicians confining their use of proprietary preparations to products accepted for New and Non-official Remedies. (Jour. A. M. A., December 21, 1929, p. 1971.)

The Influenza Discover (?).—With little if any apparent warrant, it is again announced, for at least the tenth time in five years, that the causative organism of influenza has been discovered and that it is hoped to prepare a vaccine. There is thus far little or no evidence to indicate that I. S. Falk, Ph. D., and his associates have progressed any further toward the solution of this problem than have workers in other parts of the world, now or in the past. (Jour. A. M. A., December 21, 1929, p. 1975.)

HEART DISEASE IN EARLY LIFE

Heart disease continues to increase in importance as a cause of death. Figures recently compiled by the Public Health Service indicate that last year, in a group of states with approximately 25,000,000 population, the death rate from heart disease was 228 per hundred thousand. This is compared with rates of 106 from kidney disease, 105 from cancer and 100 from pneumonia. To this high rate various factors contribute, among them the conservation of life in the early age groups and the changing age composition of the population. Yet such explanations do not explain completely, especially when Dr. Clark emphasizes that "heart disease is particularly a disease of early life." About 75 per cent of all cases of heart disease, he asserts, develop in children under 10 years of age. Rheumatic infections are of the first importance in producing heart lesions in this age group. Unfortunately, a well planned preventive campaign must await more satisfactory knowledge of the etiology of rheumatism. On the basis of available knowledge it can be asserted that "growing pains" should no longer be taken lightly, and that in all children adenoids, tonsils and teeth should be kept under close supervision. Add to these precautions the best of care in convalescence after diseases of childhood, and there is little more that the family physician can do to prevent the onset of heart disease. The school nurse can extend the protecting arm of preventive medicine a further stage by her supervision in the schools and her follow-up work in the homes, both in bringing patients to the physician and in seeing that his instructions are obeyed. —Jour. A.M.A.

X-RAYS AND RADIUM SAVE BABIES' LIVES

X-rays and radium are daily saving the lives of many babies who have enlarged thymus glands, Dr. Howard P. Doub of the Henry Ford Hospital, Detroit, and Dr. H. S. Podlasky of Milwaukee stated at the Toronto meeting of the Radiological Society of North America.

"When a baby strangles or becomes blue or has a hoarseness or a cough, it may have enlarged thymus," they said. "The thymus gland, located just above the heart, which function as an aid to the growth and development of the child, may become a dangerous organ and cause abnormality or death due to asphyxiation if it develops into an abnormally large thymus. This is especially dangerous to children and frequently causes death. It may also cause a fatality during operative treatment while the child is under anesthesia. The gland, however, may be reduced and made harmless by the use of X-ray and radium treatment."

Dr. Podlasky, with his colleague, Dr. G. W. Stevens, studied the chests and thymus glands of 750 babies.

"One-third of all new born infants show signs of enlarged thymus," Dr. Stevens reported. "In this study only about 7.5 per cent of the cases showing enlarged thymus glands showed symptoms sufficient to cause recognition of the enlarged thymus by a physician. This is important as in a symptomless child having enlarged thymus serious results might follow operation under anesthesia. It has been definitely shown that the X-ray produces very beneficial results upon these enlarged thymus cases and there is definite relief to be expected from X-ray treatment."

"The true man of science worships but one God —truth. He despises the ecclesiastic for teaching half truths for the sake of moral influence; the politicians for dressing up truth in a partisan guise; the business man for subordinating truth to personal gain."—Fournier.

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FEBRUARY, 1930

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

THE CRAFT OF SURGERY

Probably college training in the principles of surgery is as thorough as it is possible to give, including all the contributory sciences such as anatomy, physiology, pathology and bacteriology. But all this does not make a surgeon any more than a knowledge of the principles of art makes an artist. The internist is presumed to possess this as a minimum training. There is no other profession, law, theology nor any business that requires the same deftness and skill in the use of the muscles of the hands as medicine and more particularly surgery. Considering this how little attention is paid in medical colleges to the acquiring of technical skill. Probably it is not feasible to permit students the same privilege in the operative treatment of hospital patients as is accorded in practical dentistry. The dental educator has been first to recognize the importance of manual dexterity so that a goodly portion of dental education is devoted to the peculiar kind of manual training demanded by the profession. The student is instructed in the use of tools; if he possess skill naturally, so much the better. He is taught to carve teeth out of bone and later to perform all the operations of this specialized profession. Instruction in freehand drawing is also part of the course.

The surgeon is the craftsman of the medical profession. That he is much more than a craftsman hardly needs stating. While his work is done on the living body, it is closely allied in other respects to other crafts. His instruments consist of knives, scissors, saws, forceps, chisels, drills, hammers, screw drivers, needles and thread. These are all tools or instruments in special forms of such callings as stone carving, carpentry, leather work and sewing. Skill in the use of these instruments by the various workers requires long and patient training. It cannot be acquired listening to lectures and watching demonstrations. The educational maxim that one learns to do by doing is never truer than in learning to master tools and instruments.

The undergraduate acquires some practise in the anatomical laboratory in his dissections but the time devoted to the attempt at mastering anatomy will not carry him very far towards acquiring an adequate surgical technic. There is a difference between technic and skill. The former has to do with the mode or method of performing a certain act; the latter is "practised ability". Skill can be acquired only by repeated performance with an eye to perfection. If, in "the elder days of art" it required seven years of training under a competent master, how much more training is required to become a master in "the craft of surgery."

GALLBLADDER SURGERY

Surgery of the gallbladder and bile ducts is only about half a century old. Before Lister's day surgery of the gallbladder region was confined largely to the opening of abscesses. Up to 1890, according to Rowlands'* massage was advocated as a means of expulsion of gallstones from the bile passages into the duodenum. Gallstones were first observed by Foligno, who died in 1348 a victim of the Black Death. The discovery was recorded in the famous "consilia" or casebooks which were an im-

* The Lancet Nov. 23, 1929, the Bradshaw lecture by R. P. Rowlands.

portant feature of clinical medicine in the fourteenth and fifteenth centuries.

The operation of cholecystotomy was described by Petit in 1733 but was not actually performed until 1867 owing to the fear of general infection of the peritoneum. In 1867 Bobbs opened a distended gallbladder and removed a number of stones. The patient made a good recovery. In August 1879 Lawson Tait removed a large stone from the gallbladder and a small one from the cystic duct. Tait reported in 1889 fifty-five cholecystostomies with three fatalities.

Naunyn made an important clinical study of gallstones in 1892. He introduced the new concept of "cholangitis" as an inflammation of the lining membrane of the smallest bile ducts causing obliteration of their lumina. He regarded biliary calculi as an effect rather than a cause of the disease. (Parenthetically, Naunyn coined the word "acidosis" as the metabolic condition of acid formation in coma.)

Rowlands reports an interesting statistical study by Gross of Leeds based upon a series of autopsies numbering 9,531 of all ages performed at the Leeds Infirmary from 1910 to 1916 inclusive. Eight hundred and two cases of gallstones were found. Gross concluded from this study that gallstones are twice as common in women as in men; that obesity is a greater predisposing factor than pregnancy in their formation. Gallstones were frequently noted in connection with inflammation and cancer of the gallbladder and bile ducts.

Cholecystectomy is said to have been introduced by Carl Laugenbuch, a German surgeon in 1882. His mortality amounted to 50% so that the operation was for a time virtually abandoned, only forty-seven cholecystectomies being recorded up to 1890. For some considerable time gallbladder surgery was confined to the more serious or emergency cases. With more accurate knowledge of the physiology and pathology of the gallbladder and bile ducts, and we might say with more highly developed technical skill, an endeavor is made to forestall the graver conditions that follow in the wake of infection. It is a difficult field in which success comes only to him who prepares himself by a thorough knowledge of the anatomy, physiology and pathology of the structures together by a fine operative technic, or as someone has aptly called it, "skill in the craft of surgery."

OIL AND CIVILIZATION

On the face of it the reader may wonder what such a subject has to do with medicine. However, with the almost all but complete annihilation of time and space which has characterized the world in the last half century, we might safely say that there is scarcely anything that does not concern itself with the medical profession. Just as one man's health is everybody's business, so the matter of plentitude of resources concerns everyone. When one contemplates the amount of gasoline consumed in a single day in this country as well as the quantity of oil that is used up in transatlantic steamship service as well as fuel in various industries and in homes, one wonders how long nature's resource can last. Sir Henri Deterding, managing director of the Royal Dutch Shell Companies, has issued a warning advocating a world wide conservation for the elimination of wasteful methods in the production and marketing of petroleum. Probably no other person is in a better position to make such a warning. There will come a time when the theory that oil supplies are inexhaustible will be proved false. "A great many today think that oil supplies are inexhaustible. We pay too much attention to wasteful exploitations, forgetting that though new fields in the United States may still be discovered, they can never be created. Nature put them in limited number and it is almost childish to state that the more that are discovered the fewer are left to be discovered."

It is possible to use a substitute for oil for fuel but in the machine age in which we are living, the greatest need for oil is that of lubricant. While friction has been to a large extent reduced, there is no possibility of its elimination. What the absence of oil would mean can scarcely be comprehended when it is considered that no small feature of what we call progress is concerned with the abolition of the friction between two surfaces. Probably the only condition in which oil plays no part is that of primitive or savage life where nothing more exciting than the squeaking wheels of an ox car is found necessary for the maintenance of primitive society.

ONE'S OWN BUSINESS

In the Correspondence Department of this number of The Journal, appears a letter from one of the counselors of the Michigan State Medical Society protesting against as well as commenting on the atti-

tude of a physician in the state in his reply to a questionnaire sent out by a clergyman. Accompanying this communication was a clipping from a newspaper of the city in which both physician and clergyman lived. The newspaper took occasion to "play up" the physician's letter which was anonymous but is given as follows:

Dear Sir—May I kindly suggest to you that instead of discussing subjects beyond your scope, you stick to your Bible and preach the unadulterated gospel of Christ?

Sincerely, A Physician.

We quite agree with the attitude Dr. Corbus has taken in regard to the way all too many physicians look upon their professional work. The time has come when no one can properly assume that the business of the physician, or that of the lawyer or clergyman, for that matter, is his own affair which does not concern anyone else. When one writes such a reply to a courteous questionnaire or note he reflects upon the whole profession to which he is "debtor" and tends to bring it into disrepute. Better the attitude of Marley in Dickens' Christmas Carol, when his erstwhile partner Scrooge, was inclined to take a very narrow view of what he considered his personal affair. "Mankind was my business. The common welfare was my business; charity, mercy, forbearance and benevolence, were all my business. The dealings of my profession were but a drop in the comprehensive ocean of my business."

CARBON MONOXIDE POISONING

We are well into the time of the year when cases of carbon monoxide poisoning are reported all too frequently in the daily press. It would seem possible to warn the public against the danger of running automobile engines in closed garages until they warm up to the point of good locomotion. The fatalities, however, that occur year after year indicate otherwise. Of course the automobile is not the only source of danger. The same gas the product of incomplete combustion often issues from furnaces. The enclosed body of a sedan is a source of danger where the exhaust pipe from the motor is defective. There are many other sources of danger from carbon monoxide.

J. A. Campbell of the National Council for Medical Research, Hampstead, England, in a recent study of the subject points out the striking resemblance among the pathological effects of CO poisoning, of exposure to low oxygen pressure in the air, of hemolysis and of hemorrhage. Campbell agrees with J. S. Haldane, probably the greatest authority on the physiology of respiration, that CO is not in itself a tissue poison, but acts simply by interfering with the oxygen supply to the tissues. The result of breathing air laden with CO is a partial anoxemia. The power to tolerate an atmosphere containing a large quantity of CO depends upon the ability of the heart to function under a low tissue oxygen tension. Haldane has related the symptoms of tissue oxygen starvation to be nausea, vomiting, tachycardia, headache, visual disturbance, irrational states, coma, and finally heart failure. He conducted experiments with the gas with himself as the subject.

Then there is the matter of chronic oxygen starvation, of particular importance in this state with the numerous public garages of industrial cities. Garage workers in confined rooms in which internal combustion engines are running are exposed more or less constantly to great risk. This is a subject for the consideration of our state bureau of industrial hygiene who doubtless has it under investigation.

THE GRENZ RAY

Considerable is known about ultraviolet ray therapy and also superficial X-ray therapy. There is no clear and definite line of demarkation between the ultraviolet rays and the long wave Roentgen rays. From a physical viewpoint the boundary between the two is a relatively broad band in which it is difficult to say whether the rays of this band should be called ultraviolet rays or Roentgen rays. Within recent years or months this portion of the spectrum has been subject to careful investigation with the result that physicists feel that there is a distinct entity and this portion has been designated borderline or Grenz ray. In view of the fact that the Grenz ray will probably play a very important role in the future radiation treatment of superficial conditions, we herewith endeavor to at least define the term. Quoting from Grenz Ray Therapy by Bucky, a review of which will be found elsewhere in this number of The Journal of the Michigan State Medical Society, is a paragraph contributed by Otto Glasser, Ph. D., of Cleveland which describes the physical aspect of the subject.

"It must be understood that there is no sharp boundary between radiations which are called ultra-violet rays and those called Roentgen rays. From a physical point of view this boundary is a relatively broad band. It is difficult to decide

whether the rays of this band should be called ultra-violet rays or Roentgen rays, and usually the name selected depends upon the experimental method by which the rays were produced.

"If we look at this question from the biological and clinical point of view, it assumes a somewhat different aspect. In this field it is of practical importance to obtain rays of a definite quality and sufficient quantity from a radiation generator. It is not yet possible to obtain for practical purposes the whole radiation band between ultra-violet and Roentgen rays. The shortest wave lengths of ultra-violet radiation which are available for practical purposes are in the neighborhood of 1300 Angstrom units, i. e., 0.000013 cm. Until recently the longest waves of Roentgen rays used in biological and clinical work were about 1 Angstrom unit (0.00000001 cm.), although Roentgen rays of 20 Angstrom units have been produced and analyzed by means of difficult experiments carried on in a vacuum. We do not wish to include here those biological and clinical experiments of the early days of the Roentgen rays, which were done with soft rays, because we are uncertain about the exact quality and quantity of the radiations which were used. Only a few years ago Bucky conceived the idea of inserting a transmitting Lindemann window (a glass composed of the low atomic weight elements, lithium and boron) into a constant Coolidge tube with a voltage of only a few kilovolts, and he herewith introduced into radiation therapy soft radiation beams of great constancy. Bucky offers evidence that the radiation beams of from 1 to 3 Angstrom units thus produced have biological effects different from those of the shorter Roentgen rays or of the longer ultra-violet rays. He, therefore, calls these rays 'Grenz rays,' which translated means 'border days.' Since Bucky added these Grenz rays to the armamentarium of therapeutic radiation, radiations of still longer wave lengths have been produced and used for biological and clinical experiments by the French scientists, Dauviller and Saidman."

The production of the Grenz ray requires special apparatus. Neither the X-ray transformer and Coolidge tubes nor the apparatus for the production of ultra-violet rays will answer the purpose.

As the biological effects of the Grenz ray are further studied there will doubtless be found a specific field for this form of radiation therapy.

The matter of investigating and controlling opium, cocaine and their derivatives is a function of the League of Nations. The annual opium production of the entire world is estimated at 8,000 tons, of which quantity not more than twenty tons are required for medical and scientific purposes. There has been a revival of the poppy growing industry in China since 1913 where it has been completely eradicated. A number of states obtain a large portion of their revenue from the sale of cocaine and opium. The smoking of opium is an ancient habit which is as difficult to eradicate as any other national vice. The drug habit has invaded the west and the trade is said to be in the hands of an international group backed up by tremendous capital.

A PLAGUE OF BOGUS CHECKS

During the past few weeks, three doctors have been victims of the "Bogus Check Racket." In each instance, a guileless appearing stranger with convincing voice, presented pay checks from well known local manufacturing concerns. As might be expected, the checks were quite in excess of the doctor's fee, and the patient walked out of the office with free medical attention and in addition, a substantial roll of bills in his pocket.

In our present period of economic depression, this practice is prevalent not only in Toledo, but has spread like a menacing wave throughout the country. It is regarded as one of the most serious of crime problems and losses are estimated at over $200,000,000 every year, with an annual increase of 20 per cent. Criminals who formerly toted a gun in relieving their victims of cash, now have turned to this more polite and far less dangerous form of paper fraud.

If anyone should present a check of the United Tourist Association and ask you to cash it, entertain your visitor with politeness, and at the same time get in tourch with THE BETTER BUSINESS BUREAU. It may save you money and also may relieve the city of another check fraud nuisance. Be particularly wary of strangers. It pays to investigate and those who mean to transact business in good faith will never take offense at your establishing their integrity.—Bulletin Toledo Academy of Medicine.

STATE MEDICINE

Prof. Schlossmann, of Dusseldorf, lately read a paper before the German Society for Social Hygiene on the crisis in our profession. The liberty of the medical man, he said, is a dream of days gone by and the profession cannot longer resist a progressive nationalization. Apart from some specialists with a large income the majority of doctors earn their livelihood from the fees paid them from institutions under the State Insurance Act. This Act provides them with 250,000,000 marks every year. Moreover, the individual practitioner has to observe so many rules and regulations issued by the government and by insurance authorities that he cannot be described as a free worker. Prof. Schlossmann does not at all agree with the leaders of the profession in their fight against sick clubs and other institutions of state insurance, for he holds that it only embitters their mutual relations. It would be better, he thinks, to co-operate with them so as to get over certain abuses.

According to Prof. Schlossmann, the profession is suffering from an economic crisis, an ethical crisis, and a crisis of confidence. The profession of the younger generation who have to wait several years before admission to club practice is desperate financially, but still worse is the fact that they are obliged to be without work at a time when it is most desirable that they should be gaining experience and consolidating what they have leadned. * * * What is worst of all is the public lack of confidence in doctors. The Insurance Act leads the patient to look upon the practitioner as more of a sick club officer than a medical adviser. Medicine has changed from an em-

pirical to a technical science. The individual practitioner is not in a position to know all the technical methods of treatment and still less to provide for himself all the technical apparatus; this is the reason why patients are often sent to dispensaries, hospitals, and clinics, which have modern equipment. The increasing number of unqualified persons and the afflux of patients to wards them bear further witness to the critical state of the profession.—From Special Correspondence to the London Lancet.

DENTAL DIVERSIONS

The molars of the bourgeoisie
With gold and precious metals glitter,
But Communists, you must agree,
Should find a humbler filling fitter;
The Comrade sins against the light
If he displays a gilt-edged bite.

It lets the new tradition down,
It spoils the Soviet's grand adventure,
If Capital itself should crown
The Comrade's reconstructed denture—
Although perhaps the upper ten
May have gold fillings now and then.

To Kommissars there may be lent
The gold to keep their teeth in fettle;
The baser sort should be content
With any sort of baser metal—
Indeed, for that less favoured crew
A little putty ought to do.
Nor let them, to their deep disgrace,
Attempt to dodge these dental orders,
Lest they should be led forth to face
An armed array of ruthless warders,
Prepared to fill both teeth and head
With free and proletarian lead.

—Manchester Guardian.

(It is reported from Moscow that gold for filling teeth will in future be supplied from the Soviet State monopoly only to patients with a special permit.)

THE COUNTRY DOCTOR

Day in, day out, night out, night in,
Where snow is thick and fees are thin,
He hustles with his cheery grin
To fight with ills.
The drives are long, the nights are cold,
He suffers hardships left untold,
To call upon some mother old
Across the hills.

Little he says about his pay,
Often he gives his skill away,
And though he's getting bent and gray
He has no wealth.
His life has been an endless trial,
His motto has been self-denial;
Freely he gives from every vial
For some one's health.

The gallant soldier goes away
While fife and drum and bugle play,
Bravely to conquer or to slay—
That is his part.
The country doctor rides alone,
Through rugged roads o'er stick and stone
To heal men, not to make them moan;
God bless his heart!

—From The Journal Medical Society of New Jersey.

THE FACE CURE*

Do you lack determination?
Do you falter in your step?
Are you bad at concentration?
Do you note a lack of pep?
Is your chin a perfect rabbit
That betrays your craven plight?
Has it formed the fatal habit
Of receding from the fight?

Then you waste your time in reading
Works on how to mould the mind,
For the chin that keeps receding
Other treatment you must find;
So betake you to your dentist,
Who will push your face about—
Get your bottom jaw apprenticed
to the man who'll shove it out.

Then you need no other tonic
For the struggle to advance;
With a face Napoleonic
You will conquer at a glance
To the whole surrounding scene is
Your effective challenge hurled—
With a chin like Mussolini's
You can overawe the world.

*("If the upper teeth project and the cause is a receding chin, the lower jaw is brought forward by the sustained but gentle action of plates inside the mouth."—Brief description of newer forms of face-lifting as explained at the annual meeting of the Royal Dental Hospital, London.)

—From the Manchester Gardian.

NEW NAME FOR VITAMIN B

In the old days when vitamins were strange and little known, scientists called them, for convenience, by the letters of the alphabet. But since the vitamins have been split up into twins and triplets, the matter of names has become somewhat involved. Vitamin B, for instance, might mean any of three definite factors, according to what you were talking about. Now an effort is being made to settle the matter, as far as vitamin B is concerned. A committee of the American Society of Biological Chemists considered the matter and after deliberation has recommended three separate names for the three different factors formerly known as vitamin B.

Bios, a term suggested by British workers, is to denote the factor or factors encouraging the rapid growth of yeast cells. The antineuritic factor which is easily changed or destroyed by heat will retain the old family name of B. The more heat-stable, water-soluble, dietary factor which has to do with maintenance and growth, known also as P-P or the pellagra preventive, is to be called G.

The committee also recommended that when more vitamins or other dietary factors are discovered, they should not be given other than descriptive names, such as pellagra-preventive or antirachitic, until their identity is established beyond question. To avoid future complications, the committee recommended that the American Society of Biological Chemists appoint a committee on vitamin nomenclature, to act in co-operation with the British and other European committees as a clearing house for information on vitamin terminology and with power to name new dietary factors when they are discovered.

THE EDITOR'S EASY CHAIR

THE STORY OF MAN

"What a piece of work is man; How noble in reason! How infinite in faculty! In form and moving, how express and admirable! In action how like an angel! In apprehension how like a God! The beauty of the world! The paragon of animals! And yet, to me, what is this quintessence of dust? Man delights me not; nor woman neither."

Thus spake Hamlet, though mankind in its normal moods would hardly subscribe to the concluding sentiment. Man has considered himself the greatest object for his attention ever since he emerged from the pre-savage condition. From the earliest times he has never ceased to try to understand himself. Graham Wallas* the English political philosopher says that man has all but mastered the forces of nature and turned them to his use but he has failed to acquire mastery over himself. He has made discoveries in physics and chemistry that are truly wonderful. This applied knowledge in the way of invention has given him wonderful power over nature so far as making his wars more deadly and destructive but with it all he has failed in the matter of group control. We have not acquired the art of living together as peaceful co-operative groups. The statesmen of two enlightened nations, says Wallas, find it no easier than would the leaders of two Stone Age tribes to form a common purpose and they generally part with nothing better than a vague hope that war may be avoided by accident and inertia. Here's hoping that this day of World Court and League of Nations may at least modify this condition.

MAN AND THE UNIVERSE

Man's outlook has therefore been anthropocentric. A number of very scholarly books which have appeared recently have served to dispel this view, as Copernican astronomy dealt a staggering blow to the geocentric theory of Ptolemy. The Universe Around Us,† by Sir James Jeans, a very scholarly professor of Cambridge University, describes the immensities of space as well as the ultra microscopic electron. Jeans shows that the earth is a very minor planet of one of the lesser Solar Systems of which there is a countless number in space. Before he can understand himself, says the author, man must first understand the Universe from which all his sense perceptions are drawn. He wishes to explore the Universe both in space and time, because he himself forms part of it and it forms part of him. The Universe Around Us simplifies a difficult subject and renders it of fascinating interest.

In 1754 Rousseau maintained that "The most useful and least advanced of all human knowledge seems to be that of man himself." This opinion would be as applicable today as it was almost two centuries ago.

NEW CONCEPTION OF HUMAN HISTORY

Dr. G. Elliott Smith** says "the farther back we go in time the more definitely and exclusively anthropocentric all enquiries into natural phenomena become. There is no innate curiosity to study the forces of nature; but such things as seem directly to affect his own welfare have always appealed to man's interest. Man did not at first study physics, astronomy, zoology and botany simply for the intellectual joy of discovery, but so as to benefit himself in some more exact and tangible way than by reputation for wisdom."

Man's early art even consisted of sculptured figures of himself and of the animals which ministered to his wants, or animals which he feared, thus illustrating his egocentric nature. The art of ancient Greek represents the great perfection his art attained. Landscapes were eventually developed as backgrounds to human figures. In a visit to the great art galleries of Europe one is impressed with the very large place the human figure has occupied as subject for the artist. It is interesting also to note the landscape backgrounds that accompany some of the anatomical drawings of the Fabrica of Vesalius (Basel, 1543); the same background effects may be seen in the illustrations of the Human Anatomy of Godfrey Bidloo (Amsterdam, 1685).

The problems of life and death have engaged the attention of man from the earliest times. His interest in the phases of the moon were due to the fact that he thought that the moon appeared to control the physiological periodicity of women and the life-giving functions. The sky was studied because of the belief that it controlled human destiny. Man's early nature studies were self centered and related to a large extent to the expressions of life in his own body, the heart, liver, kidneys and the blood, according to G. Elliot Smith. All learning was at first focused on the preservation of life. The healer was a naturalist. It is of interest also to note that the words physics and physician both come from a Greek word meaning nature.

TYRANNY OF TRADITION

The author of Human History devotes considerable space to a study of what he calls the tyranny of tradition. Most of the things we are doing today, are being done because someone hundreds of years ago in some more or less distant part of the world inaugurated the fashion for vastly different reasons than those which may determine our actions today. Many of our prejudices are the unreasoned heritage of our ancestors sometimes of the very remote past. We can give no plausible explanation of many of the opinions we hold or the things we do on any other grounds. That man is a social being is a truism. We are more or less dominated by the group spirit and it goes without saying that under conditions of civilized life we can display our humanity only insofar as we are social. Man is in fact more dependent upon them for the knowledge of the way to live. He enters life as a helpless being and has to serve a long tutorage before he is able to provide his own necessities.

* The Art of Thought by Graham Wallas.
† The Universe Around Us by Sir James Jeans.

**Human History by G. Elliot Smith, M.A., M.D., D.Sc., F.R.S. Dr. Smith has had a distinguished career beginning in 1907 as Professor of Anatomy in the University of London. He has also held the position of Professor of Anatomy in the Egyptian Government School of Medicine at Cairo, Egypt. He has written extensively on anatomical subjects dealing with the comparative anatomy of the brain and the evolution of man. He has also made valuable contributions to the study of anthropology especially with reference to Egypt, The Art of Mummification and The Early History of Civilization. W. W. Norton & Company, New York.

Therefore the human child is far more dependent upon his fellows than any other living creature, for the knowledge of what to do and how to do it. In the normal child, however, the power of articulate speech enables him to absorb what he needs of the accumulated knowledge of his group. On the other hand this very fact subjects him to the more or less rigid conventions of his society with the result that freedom of thought is more or less hampered. He grows up with stereotyped ideas and manners. In order to understand his actions we must study the history of his social setting thus varifying Comte's expression to the affect that "no conception can be understood through history." Such a training renders us so that we are apt to view the world through the eyes of our particular group rather than to look at it independently. According to Smith the greatest object of man is self-preservation and not necessarily the perpetuation of the species. Goethe once said that the primal human urges were *hunger und leib*. Our author places the first much in advance of the second. He goes on to dilate upon the work of the vital organs of the human body making special reference to the nervous system which is the most marvelous ever devised. Not only does it safeguard the body from dangers that would imperil life itself, but it confers upon the individual the ability to be aware of danger, the emotion of anxiety, to feel pain when injured, and to learn from experience how consciously to avert risks to life.

THE HUMAN BRAIN

The human brain by making provision for learning imposes upon its possessor the vital necessity of cultivating a knowledge of the world as well as of his fellowmen. In this respect it differs from the brain of any other animal. Experience stored up as memory impressions is everything to man. "The distinctive powers of the human brain confer upon him the ability to see the world and what is happening in it with an appreciation of the meaning of visual experience denied to all other living creatures. . . . Apes are probably just as well equipped to see as we are, but they lack the fuller cerebral equipment to interpret the meaning of what they see." The author discusses the function of a portion of the cerebral cortex—the neopallium which he says is the instrument that confers upon man his intellectual supremacy. "The enormous size of the parietal area in the human brain demonstrates the dependence of man upon memories of past experience and the part such memories play in the judgment of the present."

ORIGIN OF ARTS AND CRAFTS

The advance to civilization together with most of the arts and crafts of civilization grew out of the efforts on the part of our remote ancestors to aid in securing immortality. Architecture for instance had its beginning not so much from the effort to provide human shelter, but from the invention of tombs and temples for the extension of the existence of the dead for the attainment of immortality. The provision of these sepulchural structures involved the crafts of the carpenter, stone mason and artist. The ceremonies of incense burning and the pouring out of libations, the arts of dancing and drama were all intended to help the dead regain life and all the vital activities of living people. This statement is all the more worthy of our attention, considering that the author is one of the few great students of Egyptology who has had rare opportunities to study Egyptian burial customs.

BLOOD OFFERINGS

It is interesting to note also the importance which the blood assumed in the early notions of the race. This of course grew out of the slaughtering of animals for self-protection or for food. The importance of blood is seen in the survival of color symbolism in which we have the use of red ochre in the graves of the earliest representatives of the human species. Many will recall the crude pictures of Stone Age artists showing the heart of an animal with arrows pointing to it, indicating the early age at which the heart was recognized as a vital center. Related we have the various forms of blood offering. It was soon learned that the loss of blood was accompanied by a state of unconsciousness which led to the identification of blood with mind. Hence primitive man argued that blood is *mind-stuff* and as loss of blood produced a sleep-like state and eventually death, early man reasoned that blood was also the *life-stuff;* thus substantiating the theory of the origin of the religious rite mentioned.

THE SCIENTIFIC STUDY OF MAN

For four centuries attempts have been made to make the study of mankind more scientific. The factor that was most influential in giving knowledge a new orientation was the discovery of the New World, bringing to Europeans as it did knowledge of peoples and territories up to the time unknown. Peoples who had not shared the benefits of civilization were found to be truthful, honest and peaceful—a fact that aroused curiosity and interest. A Frenchman, Jean Bodin (1566) introduced a new theory of history which took into consideration the influence of climate and geography and also the fact that history depends largely upon the will of men. His, however, was a voice crying in the wilderness, so powerful at the time was the authority of the Greek philosophers. It is well known to students of medical history that the development of medicine suffered through the slavish allegiance to the authority, particularly of Galen, illustrating the famous saying of Huxley, "that it is the customary fate of new truths to begin as heresies and to end as superstitions."

The viewpoint of Human History, from which this excellent book is written, is a combination of that of Bodin and that of Turgot (1750) which may be summarized as follows: All epics of human history are fastened together by a sequence of causes and effects thereby connecting the condition of the world to all conditions that have gone before. The gradually multiplied signs of speech and writing have made the knowledge of each individual common to all human beings capable of understanding; thus each generation transmits to the next an inheritance which is increased by the discoveries of such age. And again, the author concludes, "The career of mankind has not been the inevitable result of the action of natural causes, but has in large measure been shaped by accidents and catastrophes, by the actions of dominating personalities who have deliberately provoked great movements, peaceful and warlike, which have shaped the destiny of the world."

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

Dr. William Hackett of Detroit left for Florida where he will be absent until March.

The A. M. A. Bulletin for January contains two articles meriting thoughtful consideration by every doctor.

Dr. Wilfrid T. Grenfell, the noted surgeon and physician, who has spent his professional life in Labrador, delivered an address in Detroit January 10th on the subject, "The Challenge of Labrador."

Dr. Emil Amberg has returned home and is markedly improved in health after an operation for gallstones at the Mayo Clinic.

At a special meeting of the Board of Registration held in Detroit on January 6th, Dr. Nelson McLaughlin was elected president and Dr. W. H. Marshall of Flint, vice president.

Dr. Arthur J. Cramp, Director of Research of the American Medical Association, addressed the Calhoun Medical Society at Battle Creek on January 7th on the subject, "Patent Medicines and the Public Health."

Dr. Walter J. Cree of Detroit has been appointed an honorary attache of the Consulate of the Republic of Cuba in Detroit. Dr. Cree has spent a major portion of the winters in Cuba for a number of years.

Dr. and Mrs. N. A. Herring of Niles, Michigan, leave for Cailfornia the latter part of January to be away until the 10th of March. Dr. Herring was at one time President of the Berrien County Medical Society.

Our Society history is going to press. See special announcement this issue and send in your order. We proffer the opinion that it will be the most interesting book in your library. Order now so we may know how many volumes to print.

Dr. Arthur Evan Wood, Professor of Sociology of the University of Michigan, was the speaker at the annual meeting of the Washtenau Medical Society held at the Michigan Union on Jan. 10. Dr. Wood's subject was, Diagnosing the Delinquent.

Dr. E. S. Gurdjian has located at 840 David Whitney Building, Detroit, Mich., where he will confine his work to Neuro-Surgery. Dr. Gurdjian has been instructor in anatomy for four years at the University of Michigan Medical School.

Governor Green made the following appointments for membership on the Michigan State Board of Registration in Michigan on December 30, 1929: Doctors Charles A. Teifer, Muskegon; Wm. Franklin English, Saginaw; T. G. Yeomans, St. Joe. Doctors Nelson McLaughlin of Detroit, and W. A. Lemire of Escanaba were reappointed.

Dr. James Christopolous, a graduate of the Detroit College of Medicine, class 1928, sailed Jan. 2 for Vienna, Austria, where he enters the University of Vienna for studies leading to his Ph.D. degree. He will spend a year with Prof. Fenkel for work in gynecological and obstetric pathology as well as general work in the Pathological Institute.

A series of lectures and demonstration clinics was held on January 14th, 16th, 21st, 23rd, 28th and 30th at 11 a. m. each day in the amphitheatre of the Receiving Hospital, Detroit, by Dr. Alfred Adler, the noted Vienese psychologist. Dr. Adler was brought to Detroit under the auspices of the Children's Fund of Michigan, made possible by the munificence of Senator James Couzens. The sessions were restricted to members of the medical profession.

Rheumatic Fever a Heart Disease, is the title of a very attractive little monograph of 120 pages by Dr. John L. Chester of Detroit. This little work goes extensively into the following phases of the subject: 1. Conception, History, Importance. 2. Etiology. 3. Prodromal Systematology. 4. Heart Effects. 5. Diagnosis. 6. Prognosis. 7. Treatment. 8. Heart Failure and Its Treatment. The work is clearly written and the typographical arrangement and format of the work are very attractive. The book retails at $2.00.

The American Journal of Surgery has practically doubled its size. The publisher, Paul B. Hoeber of New York, has discontinued the publication of the Journal of Roentgenology and has added a section of fifty pages on X-ray and Radium which will be under the editorship of Dr. James Case formerly of the Battle Creek Sanitarium now of the Northwestern University Chicago, Ill. There will also be a short section each month entitled "A Clinical Survey of the Abdomen," by Dr. E. M. Livingstone.

A resolution was passed at the regular meeting of the Wayne County Medical Society on January 7th expressing confidence in Dr. Henry F. Vaughan, Commissioner of Health of the city of Detroit, stressing particularly the Society's apprehension of his co-operation with the medical profession. The resolution read: "We, the members of the Wayne County Medical Society, express our confidence in Dr. Henry F. Vaughan as health commissioner and our appreciation of the co-operation which he has given the medical profession, and express the hope that his excellent co-operation will be continued."

THE COUNTY HEALTH UNIT

The County Health Unit is a workable plan by which the small towns and villages as well as the rural districts of the county may enjoy the same health supervision as the larger cities.

The advantages of a County Health Unit in

Calhoun County are too numerous to be enumerated here, and everyone should be enlisted to help create public sentiment that will bring this about within the shortest possible time. Will you help? Let's go!—Bulletin Calhoun County Medical Society.

OAKLAND COUNTY MEDICAL SOCIETY

The Annual Meeting of the Oakland County Medical Society was held in Pontiac December 19th. An address was made by Dr. Willis S. Peck of Ann Arbor on "The Physiological Action of Physical Therapy Agents." A general discussion followed. The election of officers for 1930 took place at this meeting resulting as follows: President, Dr. B. M. Mitchell; Vice President, Dr. J. S. Lambie; Secretary, Dr. C. A. Neafie; Treasurer, Dr. I. C. Prevette; Delegates to State Society, Doctors F. A. Mercer and C. T. Ekelund; Alternate Delegates, Doctors F. A. Baker and N. B. Colvin; Board of Directors, Doctors R. Y. Ferguson, R. H. Baker, and F. A. Baker.

A BIGGER DETROIT MEDICAL COLLEGE

The Detroit Board of Education met on December 27th and in its appropriation for 1930 the sum of $508,000 was voted for the Detroit College of Medicine and Surgery. It is proposed to alter the present quarters of the college, St. Antoine and Mullett street, and to construct a twelve story building. This will of course require an additional sum. It is also proposed to house the new dental school with the medical school. Dean McCraken, who was present and addressed the Board of Education, said that members of the staff of the medical school had administered seventy-five thousand treatments to patients during the past year, ten thousand of these in the Receiving Hospital. It was explained that the school was not only helping out in the treatment of indigent patients of the city but it was devoting itself to extension research in the study of iodine treatment of goiter, vitamines and the treatment of sinus trouble.

CHILD HEALTH AND PROTECTION

At a meeting held in Washington on November 7th President Hoover declared his purpose in organizing the conference and gave his conception of the nature of a permanent health program. In brief the program contemplates an extensive study of public health problems with particular emphasis on child health for the purpose of evolving a more extensive program and of determining how the Federal Government may co-ordinate its resources with local agencies. For this purpose a number of study groups have been organized, nine in all. Among these groups is one on Federal Health Organization of which Dr. Haven Emerson is Chairman. Among the eight members are two from Michigan, namely, Senator James Couzens and Dr. F. C. Warnshuis, Secretary of the Michigan State Medical Society. On a committee on Relation of Official and Non-Official Agencies of Public Health Organization, Dr. Henry F. Vaughan, Commissioner of Health for Detroit, is a member along with four others.

GENESEE COUNTY DEPARTMENT OF HEALTH

According to the Bulletin of the Genesee County Medical Society, the Genesee County Health Department will function under new management this year. About a year ago, at the solicitation of the State Board of Health, supported by a resolution of the Genesee County Medical Society, the Board of Supervisors voted to establish a County Health Department. The need for such an organization is obvious. While the doctors acting as local health officers in the villages function satisfactorily, there were wide gaps of thickly populated territory in which no doctor resided and in which it was necessary for laymen to act as health officers. Further, there was no co-ordination between the work of the various local health officers. To meet this need, to coordinate the health work in the county and to carry out health work in the rural schools the new department was established. Dr. W. H. Winchester has been appointed consultant and director of the Board of Health and Dr. Leslie Lambert has been appointed assistant with the title of Commissioner.

PUBLIC HEALTH CONFERENCE

The dinner of the ninth annual Public Health Conference was held in the large ballroom of the Olds Hotel, Lansing, January 8, 1930. Dr. Louis J. Hirschman, Member State Advisory Council of Health, acted as toastmaster. Following a short address, he introduced Lilliam R. Smith, M. D., Director, Bureau of Child Welfare, Chalmers J. Lyons, D. D. Sc., Professor of Oral Surgery, University of Michigan, Member State Advisory Council of Health; Dr. C. C. Slemons, Health Officer, Grand Rapids; Dr. Don Griswold, Department of Health; Dr. John Sundwald, University of Michigan. He then introduced the speaker of the evening, Charles Milton Newcomb, Delaware, Ohio, who delivered an exceedingly humerous talk on "Emotion-Fear." He concluded in a somewhat serious vein, however, pointing out the importance of fear reaction and the address was closed with a tribute to several American heroes, who had shown marked bravery because they appreciated the danger to which their heroism subjected them and experienced fear, nevertheless. The program closed with a short talk by Dr. Hirschman. The banquet was well attended, the large dining room being filled.

WAYNE COUNTY'S DELEGATES

The balloting for delegates from the Wayne County Medical Society to the next annual meeting of the Michigan State Medical Society which took place January 7th, resulted as follows:

Delegates—Charles J. Barone, E. C. Baumgarten, A. P. Biddle, A. S. Brunk, Wm. J. Cassidy, L. J. Chester, Norman E. Clark, Basil L. Connelly, J. D. Curtis, J. H. Dempster, Chas. E. Dutchess, B. U. Estabrook, L. O. Geib, C. K. Hasley, L. T. Henderson, A. Jos. Himmelhoch, L. J. Hirschman, Stanley W. Insley, Frank A. Kelly, Chas. B. Lakoff, D. J. Leithauser, H. A. Luce, Richard E. McKean, R. L. Novy, Clarence I. Owen, G. C. Penberthy, Wm. S. Reveno, J. R. Rupp, Wm. J. Stapleton, Jr., A. H. Whittaker.

Alternates—L. Byron Ashley, A. U. Axelson, D. S. Brachman, W. N. Braley, C. L. Candler, H. R. Carstens, J. H. Chance, C. R. Davis, E. C. Davidson, D. P. Foster, L. J. Gariepy, H. B. Garner, M. H. Hoffman, Wm. H. Honor, Wm. E. Johnston, H. I. Kallet, Chas. S. Kennedy, M. O. Kernick, J. Frank Kilroy, Joseph Liburt, J. J. McClintock, J. B. Morin, H. E. Northrup, Harry A. Pearse, Frank S. Perkin, F. D. Royce, R. L. Schaefer, C. R. Van Gundy, C. C. Vardun, F. C. Witter.

HIGHLAND PARK PHYSICIANS' CLUB

The Highland Park Physicians' Club held its Fourth Annual Clinic at the Highland Park General Hospital on December 5th and it was the most successful one-day clinic yet held. The first number on the program was the weekly clinical conference of the hospital staff, which was well conducted. It showed the great value of autopsies. Dr. J. G. R. Manwaring of Flint gave an instructive address on "Focal Infections." Addresses and clinics followed, being given by nine medical professors from other states and two from London, Ontario. The banquet in the evening was at the Masonic Temple, where Mayor Shields gave the physicians a hearty welcome. Dr. J. D. Brook, President of the Michigan State Medical Society spoke about a number of legal aspects relative to the profession and promised to do what he could for the Wayne County Medical Society. Mr. Gus W. Dyer, the outstanding orator of the middle west, from Vanderbilt University, Nashville, Tenn., gave a witty address on "Fundamental Americanism." His humorous stories were much to the point. The greatest danger to Americanism, he claimed, was "Socialism" which received many hard knocks. Organized charity also came in for much criticism.

STATE HOSPITAL PROGRAM

Dr. George F. Inch of Traverse City, as announced, has been appointed Medical Superintendent of the new state hospital to be built near Ypsilanti this year. This hospital will be one of the state hospitals to be erected out of the $27,000,000 building program. Mr. Albert Kahn of Detroit is the architect. It is estimated that the cost when completed will be about seven and a half million dollars. The capacity will be 5,000 patients. Dr. Inch will work with Mr. Kahn in completing the plans for the hospital and in supervising the construction. He will be succeeded at Traverse City by the present Assistant Superintendent Dr. Phillip Sheets. Dr. Inch has been executive for the Michigan hospital system for the past twenty-four years, and was at one time assistant superintendent at Kalamazoo and later was in charge at Traverse City. His familiarity with Michigan institutions as well as his ability as psychiatrist amply justifies the choice of Governor Green in his appointment.

It is said that plans for increasing the capacity of Michigan state hospitals are in process of being carried out for which appropriation of approximately $27,000,000 has been voted. The hospital at Kalamazoo will have 3,000 additional beds, at Traverse City 3,000, the capacity of the Michigan Home Training Farm at Lapeer will be increased to 4,000. The Newberry and Ionia hospitals will be able to house between 1,200 and 1,500 additional patients. The Epileptic Farm Colony at Wahjamego, Mich., will likewise have its capacity increased.

COMMUNICATIONS

"'MIND YOUR OWN BUSINESS'

"That is, in effect, what one of the one hundred doctors wrote to the pastor of Wallin Church instead of filling out the questionnaire as requested. But many other physicians filled out and sent in the questionnaire with great care. The secretary of the State Board of Registration in Medicine, in addition to carefully filling out the questionnaire, sent us various documents bearing on the work of the profession.

"In the sermon next Sunday morning, Dr. Cook will make use of the answers to these questionnaires in his sermon on 'The Body and the Soul',—the work of the physician.

"The questions sent to the physicians are concerned with the ethics of the profession,—retention of cases which they cannot successfully handle, obligation to the patient when that seems to conflict with courtesy to a fellow doctor, the relations of bodily conditions to emotional and mental states, attitude toward patent medicines, toward healers who are not fully prepared 'legitimate practitioners', etc."

(From Wallin Church Paper).

The above article, caption and all, I found in a recent issue of a Grand Rapids church paper. It is so significant that I desire to make some comments upon it.

As a profession we have been deploring the fact that the attitude of the public toward the medical profession has, in late years, materially changed. There has been expressed a lessened respect for the doctor. With the passing of the general practitioner that close personal relationship, closer even than that of the minister or priest to the family, has to a considerable extent, disappeared. We have, as a profession, looked upon this with regret and concern, yet the public is, in a greater degree than ever before, interested in the progress of medicine and interested in the attitude of the profession. Although within the covers of the lay magazines you will find many articles in which the profession is criticised, yet that these articles are there at all is indicative of the fact that the public is interested.

Now these questions that this minister has in his questionnaire are perfectly sane questions, questions which answered carefully by the doctor, offer an opportunity for a sermon which might well be of advantage to both the laity and the profession. Evidently most of the doctors appreciated the spirit of this questionnaire and the importance of its being treated earnestly, but here is a doctor who is so unappreciative of the purpose of such a questionnaire and its importance to the profession as a whole that he writes a most discourteous letter. It is just such an attitude taken by the individual doctor that is responsible very largely, for the critical attitude of the laity toward the profession. Fortunately it is only the occasional doctor who overcharges. It is only the occasional doctor who resents his obligations to do charity work. It is only the occasional doctor who fails to carry the medical ideals so generally held by our forefathers,—but these occasional incidents serve well those who would criticize the profession.

"If you are to be a real doctor," to quote Oliver Wendell Holmes, "You must have all those traits of character which fit you to enter into the most intimate and confidential relations with the families of which you are the privileged friend and councilor." If all doctors had these traits there would be little room for criticisms. Too often in the past has the profession taken something of the attitude that this physician took, not neces-

sarily a discourtesy, but a desire to keep aloof from other professions and other activities. This tendency is largely responsible for the various abuses which have crept into the activities of lay groups who have concerned themselves with social betterment. Had we interested ourselves more in such activities there would not now exist these abuses of which we frequently complain. There is no group who by education and training, by experience and by contacts, has so full a knowledge of the needs of a community from a charitable and health standpoint, as the medical profession. There is no unit of organized medicine which is in such a favorable position to co-operate with the various civic groups as the county Medical society. I feel confident that this co-operation will be appreciated and that with better acquaintance there will come a better appreciation of what organized medicine stands for and is trying to do. If the recent legislative fracus taught us anything it is that a deal of education of the public is necessary to convince them that doctors still have ideals and still believe that the interest of the patient is paramount.

BURTON R. CORBUS,
Councilor and Vice Chairman of
the Council M. S. M. S.

To the Editor:

I was particularly interested in the statistics furnished by the Wayne County Society in discussing Public Welfare and its relation to the practicing physician, his services and fees, in the December Journal M. S. M. S.

The subject is not new as the annals of history contain graphic records of the struggles of the physician down through the centuries. Akin to other pursuits in life, the medical profession has its diversified classes of physicians as regards wealth and poverty, success, partial failure, and failures. Taken as a whole the medical profession has been markedly successful in study and research, and has brought comfort and relief to suffering millions of the human race.

To rightly understand the plight the medical profession finds itself at the present day, one must acquaint himself of the underlying social principles which are responsible for conditions as they exist today, and are expressing themselves in different forms in every walk of life. Our social conditions involve economic problems of stupendous proportions, ramifying, as they do everywhere, and bring into consideration the rich, poor, as well as the well-to-do class, or what is termed the middle class. All humanity is involved in this great human struggle as outlined in that wonderful book written by Henry George a half century ago "Progress and Poverty."

The causes of human poverty are graphically stated, as well as advancing proven policies, which, if incorporated into our civil laws, would abolish human suffering. If the average physician would acquaint himself with this philosophy he would thoroughly understand the reason for existing clinics and social welfare organizations, and would better appreciate the end results of his efforts. I know I will be severely criticized if I venture the statement that the great white plague is largely an economic disease, brought about by the greed of man, and under the broad subject of dissipation we may catalogue the major causes of human suffering. Centralization of power as vested in money and credits is slowly, but surely, usurping the right of the average citizen, and he passively submits to the yoke by the practice of economy for obvious reasons, and probably through lack of understanding. The first place the average humble citizen starts to practice economy is at his table, then in fuel for warmth, they being the place least observed by his fellow citizen. I have often observed and been told of these economic struggles by honest patients. The story is too long to be told in a brief article.

Aside from the struggle of the lowly we have the record of the newly made rich and the affluent. Very often the first thought of many so classed is to rush into the church, and to become interested in social welfare work that they may do something for struggling humanity. If the principles as set forth in the George philosophy were thoroughly understood and made workable, we would have no need for the generosity of those who garner their riches at the expense and extortion of the masses. The average physician who renders service in the relief of the poor and unfortunate, while laudable in its scope, is only aiding to perpetuate human misery.

It is not a far venture in the future when we will see the profession existing as two distinct classes, the Specialist and the general practitioner with the latter quite outclassed socially with his fellow colleague. In England this has been so for many years. While living in London in the year 1912 I studied under a very able and good man, Mr. McNab, poor fellow lost his life in the first year of the World War. In conversation with him in his study he told me that all specialists in London were addressed as "Mister" in preference to the title "doctor"; and his patients always came prepared to pay his usual consultation fee of two pounds, (about ten dollars), no questions asked, simply left the amount in an envelope or tendered at the close of consultation. A day or so later, a physician was called to treat a servant at the place where I had living quarters in Oakleigh Square and I engaged him in conversation as to his duties in the practice of medicine. He told me his usual fee for house visits was seventy five cents, and that the average doctor had mighty hard going to make both ends meet, and that the general man was practically a "Bird dog" (using his own words) to round up patients for the fellows "our Mister" who gets the better fees, and not only that, but gets the money in hand.

Can it be true these conditions are knocking at our door for admission? The clouds are appearing on the horizon as is evidenced by the spirit of unrest amongst the profession.

The advent of the present century has gradually been closing the door of opportunity. We are no longer living in a pioneer age. If you doubt this compare statistics as regards entrance requirements, etc., to medical colleges twenty-five to thirty years ago and today. A quarter century ago the ambitious poor farmer boy was able to enter college from his high school. What are the requirements today? How far into the future are the years before he can really earn a livelihood as compared to former years? The future physician will be a man of fine training and comfortably able to start out in life without the fear of poverty, but will he possess all those finer qualities that made the family physician of former years, sympathetic, kind, and understood from experience the needs and suffering of mankind? A real surgeon today is he who possesses the combination of those rare traits, skill and judgment. The dispensation and administration of

drugs is a minor part in the relief and suffering of man. Man craves more than any other thing first, a sympathetic understanding of his suffering.

As Henry George says, the human race is primarily social, and linked with man's relation is individual pride and resentment. The normal man does not seek or ask the giving of alms; this he resents, but he does seek opportunity for expression of the higher and better forms of life.

The dispensation of charity is an Art. Are we equal to the task?

Jno. F. Cardwell,
2059 Jefferson Dr., S. E.,
Grand Rapids, Mich.

YE TONSIL OPERATORS BEWARE!*

To the Nurse or Doctor: If Alfreda's blood is in the wrong part of her body, do you think it wise to take her tonsils out today? I know you know better than I do, but I think today her blood is in her head.

Respectfully,
Mrs. Johnson.

* A letter received by one of them.

DEATHS

Dr. John A. Lenfesty died at his home in Mt. Clemens on December 17th, 1929, at the age of 60 years. He had practised medicine for nearly forty years at Mt. Clemens. Dr. Lanfesty was born at Strathroy, Ont. He attended the University of Michigan, where he graduated in 1893, beginning practice in Mt. Clemens in 1894. He is survived by his widow, two daughters, Miss Florence at home and Mrs. Gladys Latimer of California, as well as two brothers, Dr. Fred K. Lenfesty of Mt. Clemens and Dr. J. P. Lenfesty of DePere, Wisconsin, and one sister, Mrs. C. A. Thompson of Penetanguishene, Ont.

HEART BEAT STARTED BY RADIOACTIVE POTASSIUM

The potassium in the diet is the radioactive element which normally performs the vital function of starting the heart beat, it appears from experiments conducted in the laboratory of Dr. H. B. Zwaardemaker, professor emeritus of physiology at the University of Utrecht. These experiments have just been reported by Dr. Charles C. Lieb, professor of pharmacology at the College of Physicians and Surgeons, Columbia University, who has himself spent some time on research in Dr. Zwaardemaker's laboratory. Earlier experiments of Dr. Zwaardemaker seem to have definitely established the fact that potassium is a radioactive element. The recent experiments have indicated that a radioactive element is essential in the initiation of the heart beat, and therefore an indispensable element of diet. Pursuing these studies further Dr. Lieb will investigate the pharmaceutical value of radioactive spring waters, such as those found at Saratoga Springs, Arkansas Hot Springs, the Georgia springs owned by Governor Roosevelt of New York, where infantile paralysis cases are treated, and many other famous spas throughout the country. For years it has been known that the waters of these springs were radioactive, but the active charges have been so small that leading radium authorities have considered their radioactivity a negligible quantity therapeutically.

Dr. Zwaardemaker's work, Dr. Lieb pointed out, not only indicates that the radioactivity of potassium is one-millionth to one-hundred-millionth that of radium, but that even this minute charge is essential to the maintenance of the heart beat.

"This may mean," said Dr. Lieb, "that even the very slight degree of radioactivity in the waters of famous spas is of distinct therapeutic value, although it is impossible for me to make any statement on the subject before extensive experimentation. Dr. Zwaardemaker discovered, however, that the radioactive elements uranium, polonium, thorium and radium may replace potassium in some of the simpler processes of cell activity.

"In just what radioactive group potassium must be placed we have not determined. Probably that is the work of a physicist. But it does seem to be established that potassium gives off beta radiation. This is distinguished from alpha and gamma radiation as being in the order of the electron. Alpha radiation consists of helium atom nuclei, while gamma radiation is hard like X-rays.

"It is apparently the electrons from potassium atoms and their ionizing power that furnish the energy necessary in initiating the heart beat, but we are not yet prepared to discuss the mechanics of the process."

Dr. Lieb explained that the experiments consisted of the perfusion of the hearts of eels and frogs. When the hearts of these animals are taken out canulae, or small glass tubes, are attached to the blood vessels and fluid is passed through the hearts. The fluid does not contain potassium or other radioactive elements at first, and the heart ceases to beat in half an hour to an hour.

Potassium is then introduced into the liquid and the heart resumes its beat and continues to beat for about twenty-four hours. Similar results are obtained when, instead of potassium, another radioactive element is used. Not only did this physiological action lead to the conclusion that potassium was radioactive, but measurements on specially constructed electrometers indicated that it gave off beta radiation.—Science Service.

EXERCISE KEEPS MIND AGILE

If one would keep his mind in its youthful, agile state when it would tackle new problems, new languages, new theories of science, don't ever stop learning. This practical advice is deduced from an experiment on the learning powers of adults which were described before the American Association for the Advancement of Science by Herbert Sorenson of the University of Minnesota, at the annual meeting, Des Moines, Iowa. Mr. Sorenson compared the learning abilities of various school teachers, twenty tot fifty-six years old, who were taking courses in education at the university. Adult students who were resuming study after a long "lay-off" from taking courses showed a decreased learning ability with increasing age. But those who had been recently doing university work were not handicapped by increasing age, he found.—Science Service.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

Frederick C. Warnshuis, M. D.
Secretary Michigan State Medical Society

Our Medical History

Following three years of diligent editorial research and writing by our Committee on Medical History, headed by Dr. C. B. Burr of Flint, our History is ready for the press. It is expected that the first volume will be ready for distribution in April. Dr. Burr has in his own inimitable language and way compiled a most intensely interesting history of our Society and the profession in Michigan. It is written in very fascinating style. It includes the earliest days and records and in our opinion excells any published history of any state. It is not a dry biography of men and events. It is a scholarly, literary composition.

Every member will want a copy for his library. Your order is solicited now in order that we may determine how many copies to print.

The second volume will appear during the early summer. Each volume will contain about 800 pages well illustrated. The price is $10.00 for the two volumes. Five dollars to be sent with the order and the balance when notified that the second volume is ready for delivery.

Please send in your order today.

ORDER BLANK

F. C. WARNSHUIS, *Secretary,*
1508 Grand Rapids National Bank Bldg.,
Grand Rapids, Michigan.

I hereby subscribe for the two volumes on *The Medical History of Michigan* and agree to pay the price of $10.00 for the two volumes. I enclose $5.00 and agree to remit the balance when advised that the second volume is ready for delivery.

Signed .....

Street .....

City .....

NOTE: FIVE DOLLARS MUST ACCOMPANY THIS ORDER

MONTHLY COMMENT

Oakland County Society commences the new year with the issuance of an attractive, interesting eight-page bulletin. Previously the secretary issued a very attractive, live letter announcing programs and items of interest. Congratulations are tendered to the members of this county unit who are alert and compose an achieving society that has been in existence since 1831.

Please note the announcement and order blank for our Medical History that is now in process of publication. You will find it in this issue. Send in your order now so that we may determine the number of volumes to be printed.

The mid-winter meeting of the Council and the Annual Conference of County Secretaries was held in Chicago January 22 and 23. The minutes and reports will appear in the March issue.

The State Board of Registration minutes appear in this issue. They are published for your information as well as for record.

You are reminded to observe the recommendations of the Committee on Civic and Industrial Relations. It is quite essential that all members observe the principles adopted.

Business is slowly recovering from the adverses sustained last October. Our advertisers have been loyal and only a few have cancelled or reduced their space. Our advertising income is extremely necessary. We are dependent upon it to defray part of our Journal expense. Our volume of advertising is largely dependent upon the patronage our advertisers receive from our members. The call is therefore issued that you carefully read our advertising section, answer the keyed ads, patronize our advertisers in preference to non-advertising firms. You owe this support to these firms who make your present Journal possible. Will you exhibit this support?

Dr. Burr has performed his editorial duties in a masterly manner in compiling our Medical History of Michigan. He has thoroughly covered the field in a manner that imparts historical events, incidents and anecdotes in a style that is interestingly and fascinatingly narrated. Every member should subscribe for the two volumes. Send in your order now on the blank published in this issue.

After you have paid your current dues to your local secretary and he has remitted them to this office your State Certificate will be mailed to you. Watch your mail. Your Certificate will come to you in a brown envelope that is identified by the name of the State Society and an inscription—"This envelope contains your membership Certificate." Do not confuse it with the advertising matter that comes in your mail.

STATE BOARD OF REGISTRATION IN MEDICINE

Special Board Meeting held at 1010 Maccabee Building, Detroit, Michigan, on January 6, 1930.

PRESENT: Drs. Nelson McLaughlin, Frank A. Kelly, W. H. Marshall, J. D. Brook, J. Earl McIntyre, W. Ellwood Tew, Charles A. Teifer, Wm. F. English, and T. G. Yeomans.

ABSENT: Dr. Wm. A. Lemire.

Dr. Fred C. Warnshuis, Secretary, in the Chair.

The meeting was called to order by the Secretary.

* * * *

By Dr. Kelly, supported by Dr. McLaughlin:

Resolved, That Dr. W. H. Marshall act as temporary chairman of this meeting.

Yeas: 9; Nays: 0.

Motion carried.

Dr. W. H. Marshall in the Chair.

Dr. Charles A. Teifer, of Muskegon, Dr. Wm. F. English, of Saginaw, and Dr. Therod G. Yeomans, of St. Joseph, submitted their commissions from Governor Green, appointing them as members of the Board of Registration in Medicine.

* * * *

By Dr. Brook, seconded by Dr. McIntyre:

Resolved, That we now proceed to cast a ballot for President and Vice President of this Board.

Yeas: 9; Nays: 0.

Motion carried.

* * * *

By Dr. Kelly, seconded by Dr. Brook:

Resolved, That Dr. Nelson McLaughlin be nominated President for the ensuing term of two years.

Yeas: 8; Nays: 0.

Motion carried.

* * * *

By Dr. Tew, seconded by Dr. Yeoman:

Resolved, That the nominations for President be closed, and Dr. McLaughlin be declared President of this Board.

Yeas: 8; Nays: 0.

Motion carried.

Dr. McLaughlin in the Chair.

* * * *

By Dr. Brook, seconded by Dr. Kelly:

Resolved, That Dr. W. H. Marshall be nominated as Vice President of this Board for the ensuing term of two years.

Yeas: 8; Nays: 0.

Motion carried.

* * * *

By Dr. Brook, seconded by Dr. Tew:

Resolved, That the nominations be declared

closed, and Dr. Marshall be named Vice President of this Board.

Yeas: 8; Nays: 0.

Motion carried.

* * * *

Re: The Federation of State Medical Board meeting.

The Annual Congress of State Medical Boards of the United States will be held at Chicago, on February 17th-20th, 1930. An invitation is extended to the Michigan Board members to attend this meeting.

By Dr. Kelly, seconded by Dr. Brook:

Resolved, That Dr. McLaughlin, as President, be designated as a representative of this Board at the annual meeting.

Yeas: 9; Nays: 0.

Motion carried.

By Dr. McIntyre, seconded by Dr. Teifer:

Resolved, That Dr. Marshall, as Vice President, be designated as a representative of the Michigan Board at the Annual Congress of Medical Boards.

Yeas: 9; Nays: 0.

Motion carried.

* * * *

Re: Annual Report to the Governor.

The annual report to the Governor is herewith submitted by the Secretary:

"Governor Fred W. Green,
"Executive Office,
"Lansing, Michigan.
"Honorable Sir:

"In compliance with the provisions of Act 237, I respectfully submit this Annual Report for the year 1929:

"1. The personnel of the Board was as follows:
Dr. Nelson McLaughlin, Detroit, 1929.
Dr. W. A. Lemire, Escanaba, 1929.
Dr. Albertus Nyland, Grand Rapids, 1929.
Dr. George LeFevre, Muskegon, 1929.
Dr. Guy L. Connor, Detroit, 1929.
Dr. Frank A. Kelly, Detroit, 1931.
Dr. W. H. Marshall, Flint, 1931.
Dr. J. D. Brook, Grandville, 1931.
Dr. J. Earl McIntyre, Lansing, 1931.
Dr. W. Ellwood Tew, Bessemer, 1931.

"2. On October 7, 1929, Dr. Guy L. Connor resigned as Secretary. The resignation was accepted and Dr. F. C. Warnshuis, of Grand Rapids, was elected Secretary.

"3. On December 30, 1929, you appointed to membership the following physicians:
Dr. William F. English, Saginaw, 1933.
Dr. T. G. Yeomans, St. Joseph, 1933.
Dr. Charles A. Teifer, Muskegon, 1933.
Dr. Nelson McLaughlin, Detroit, 1933, (reappointment).
Dr. William A. Lemire, Escanaba, 1933, (reappointment).

"4. On December 1, 1929, the offices of the Board were moved from the Stroh Building to 1010 Maccabee Building, Detroit.

"5. During the year the Board held three regular meetings and conducted examinations at Ann Arbor, Detroit and Lansing.

"6. Statistics:

(a) Number of applicants examined for physicians and surgeons license, final examination	269
Number writing primary examinations	308
(b) Number of applicants examined for limited practice license, (drugless practitioners)	10
(c) Applicants failing in physicians and surgeons examinations	1
(d) Applicants failing in limited practice examination	6
(e) Total number of licenses issued to physicians and surgeons, during the year	313
(f) Total number of limited licenses issued	4
(g) Licenses issued through indorsement of credentials	93
(h) Licenses issued through examination	220
(i) Total number of all licenses issued	317
(j) Number of licenses suspended	1
(k) Number of licenses on probation	1
(l) Number of licenses revoked	1
(m) Number of hearings given	15
(n) Number of prosecutions instigated, or assisted in	13
(o) Number of hospitals inspected (for intern training approval)	2
(p) Number of medical schools inspected	1
(q) Total fees collected during the year	$12,656.00
(r) Total expenses during the year	10,456.78

"7. Plans are under way for taking a complete census of all licensed practitioners in the state during 1930.

"8. The assurance is tendered that this Board is functioning in strict compliance with the provisions of Act 237, as amended, and that the Board is fully discharging its responsibilities to our Commonwealth.

"9. The Board desires to record its appreciation for the assistance and advice received from the Attorney General and from the State Constabulary. Our appreciation is also expressed to state officials with whom our work has brought us in contact.

Respectfully submitted,
Michigan State Board of Registration in Medicine,
(Signed) Nelson McLaughlin, Pres.
(Signed) F. C. Warnshuis, Sec'y.

Dated, Jan. 6, 1930."

* * * *

By Dr. Tiefer, seconded by Dr. McIntyre:

Resolved, That the report to the Governor be placed on file and a copy sent to the Governor.

Yeas: 9; Nays: 0.

Motion carried.

* * * *

Re: Intern Curriculum.

By McIntyre, seconded by Brook:

Resolved, That the Secretary be instructed to formulate a Standard Intern Curriculum to be followed by the approved hospitals of the state, the same to be submitted to the Board at the June meeting for approval.

Yeas: 9; Nays: 0.

Re: Osteopathic Practice.

A letter from Emerson R. Boyles, Deputy Attorney General, of Lansing, was read with reference to the scope of practice of registered osteopaths as contrasted with registered physicians and surgeons in the state.

The following reply was submitted:

"Mr. Emerson R. Boyles,
"Assistant Attorney General,
"Lansing, Michigan.
"Dear Mr. Boyles:

"Acknowledging receipt of your letter of December 12, enclosing copy of a letter from Mr. Glenn W. Jackson, prosecuting attorney of Delta County. Please be advised that your communication was presented at a special meeting of the

Board held at Detroit on Jan. 6, 1930, and after a full discussion I was directed to send you the following expression:

1. Webster defines osteopathy as "A system of treatment based on the theory that diseases can be remedied by manipulation of the bones, nerves, blood vessels, etc.", and an osteopath as "A practitioner of osteopathy."

2. It is our experience in passing upon Acts created by the Legislature, that all courts (and especially the Supreme Court) place much credence and weight upon the intent of the Legislature, in the interpretation and application of a legislative measure.

3. At the time of the passage of the Osteopathic Act, the purpose and *intent* was to enact a law that would delegate the licensing of osteopaths to a board composed of osteopaths and remove this power and duty from the Board of Registration in Medicine. It was clearly represented and it was the understanding of the Legislature at that time that this Act did not and would not confer upon an osteopath the right to practice medicine and surgery as granted to graduates in medicine. Were this the intent, there would have been no need to create a second board, as one already existed under Act 237 of Public Acts of 1899. To license osteopaths, by an osteopathic board composed of osteopaths, was the sole intent of this legislature.

4. It is the opinion of this Board that the osteopath would be violating our Michigan laws if he engages in the practice as outlined in the letter of the county prosecutor.

Yours very truly,
Michigan State Board of Registration in Medicine,
By: F. C. Warnshuis, Secretary.

By Dr. Brook, seconded by Dr. Tew:

Resolved, That the communication to the Assistant Attorney General be approved.

Yeas: 9; Nays: 0.

Motion carried.

* * * *

Re: New form of Certificates of Registration.

By Dr. Brook, seconded by Dr. Kelly:

Resolved, That the new form of certificates of registration, or licenses, be approved as of January 1, 1930.

Yeas: 9; Nays: 0.

Motion carried.

* * * *

Re: Medical matriculation and Dr. Bonathan, of Hurley Hospital, Flint.

By Dr. Brook, seconded by Dr. McIntyre:

Resolved, That Dr. Bonathan be permitted to write the Board examination in June, and if successful, that a certificate of registration be issued to him upon submission of a hospital certificate covering one year of service.

Yeas: 9; Nays: 0.

Motion carried.

By Dr. McIntyre, seconded by Dr. Marshall:

Resolved, That the Secretary be instructed to invite the Dean of the University of Michigan School to attend the June meeting and report regarding the present method of matriculation in the medical school.

Yeas: 9; Nays: 0.

Motion carried.

Re: Dr. Jos. M. Hanson, Detroit, Michigan.

Mr. A. Klette, of 5893 Hazlett Ave., Detroit, made a personal appearance and entered a complaint regarding the mode of practice of Dr. Jos. H. Hanson.

By Dr. Kelly, seconded by Dr. McLaughlin:

Resolved, That the Secretary be instructed to receive all complaints from laymen, also from the Detroit Department of Health, with a view to instituting legal action against this practitioner and the ultimate revocation of his license.

Yeas: 9; Nays: 0.

Motion carried.

* * * *

Re: Dr. Fred M. Henry, Detroit, Michigan.

By Dr. Kelly, seconded by Dr. McIntyre:

Resolved, that upon proper filing of his credentials, Dr. Henry be admitted to the Board examination on January 6, 1930.

Yeas: 9; Nays: 0.

Motion carried.

* * * *

Re: Dr. George L. LeFevre, Muskegon, Michigan.

By Dr. McIntyre, seconded by Dr. Tew:

Resolved, That the following resolutions be adopted, be spread upon the minutes of this Board, and a copy be sent to Dr. LeFevre.

Yeas: 9; Nays: 0.

Motion carried.

"To Whom It May Concern:

"The Michigan State Board of Registration in Medicine, in special session assembled, learns with sincere regret of the termination of the term of office of Dr. George L. LeFevre.

"Dr. George L. LeFevre served as a member of this Board for a period of sixteen years, the majority of which he served as President.

"During his term of office he faithfully and conscientiously discharged his official duties. Ever did he acquit himself of the trust reposed in him. Of sterling integrity, pleasing personality, holding the highest professional qualifications, keen of judgment and unfailingly fair in his executive duties, he gave of his time and labors to enhance the activities of this Board. The services he rendered materially elevated the standard of medical education and practice in Michigan, thereby safeguarding the health interests of the people of this Commonwealth. His contribution of time and services was a material and valuable factor in maintaining the standing and prestige of this Board. The termination of membership is a distinct loss to the people of this state and to the profession of medicine. Openly and appreciatively acknowledging his labors and his professional and personal qualifications, this Board does hereby record and

"Resolve, That our most sincere thanks be tendered to Dr. George L. LeFevre for the contributions personally made to medical education and to the administrative work of this Board, and further

"Be It Resolved, That we extend to Dr. George L. LeFevre our collective and individual hearty good wishes for his future health and happiness, and

"Be It Further Resolved, That these resolutions be sent to Dr. LeFevre and spread upon the minutes of this Board, in order that a record of his services may be preserved for all time and

so serve as an inspiration to present and future members of this Board.

Michigan State Board of Registration in Medicine,
By: F. C. Warnshuis, Secretary.

Dated, Jan. 6, 1930."

* * * *

Re: Dr. Albertus Nyland, Grand Rapids, Michigan.

By Dr. Brook, seconded by Dr. McIntyre:

Resolved, That the following resolutions be adopted, spread upon our minutes, and a copy sent to Dr. Albertus Nyland.

Yeas: 9; Nays: 0.

Motion carried.

"To Whom It May Concern:

"The Board of Registration in Medicine, in special session assembled on January 6, 1930, learns of the expiration of the term of office of our esteemed fellow member and past president, Dr. Albertus Nyland.

"Dr. Nyland served diligently and faithfully for a period of twenty-five years. During his service he was ever alert to, and faithfully discharged, the responsibilities reposed in him. His official acts ever reflected a high quality of character, unfaltering honesty, tolerant consideration and an ever expressed desire to uphold a high standard of educational and practice qualifications for members of the medical profession.

"Dr. Nyland gave of self, of time, and of his wealth, in order that the prestige of this Board might ever remain upon a high plane and that the welfare of the people of this state might be conserved in the fullest degree. His services will ever be construed as a commendable contribution to mankind. Therefore,

Be It Resolved, That the members of this Board hereby acknowledge the valuable contributions and services rendered by Dr. Albertus Nyland and tender to him our sincere thanks and appreciation, and

Be It Further Resolved, That this expression of our esteem and recognition of his services be conveyed to Dr. Nyland and spread as a permanent record in our minutes.

Michigan State Board of Registration in Medicine,
By: F. C. Warnshuis, Secretary.

Dated Jan. 6, 1930."

* * * *

Re: Dr. Guy L. Connor, Detroit, Michigan.

By Dr. Brook, seconded by Dr. McLaughlin:

Resolved, That the following resolutions be adopted, spread upon our minutes, and a copy sent to Dr. Guy L. Connor.

Yeas: 9; Nays: 0.

Motion carried.

"To Whom It May Concern:

"The Board of Registration in Medicine, in special session assembled on January 6, 1930, learns of the expiration of the term of office of one of our fellow members, Dr. Guy L. Connor.

"Dr. Connor served as a member of this Board for a period of twelve years, of which five years record him as Secretary of the Board. Dr. Connor accepted the responsibilities of office and discharged the trusts that were reposed in him in a manner that reflected credit to himself and to the Board of Registration in Medicine. His executive services reflected a constant desire to enhance the activities of this Board and to maintain a high standard of supervisory control of the practice of medicine in this state. He gave of self, of labor, and of time, in order that the accomplishments of this Board might better safeguard the health of the people of this state. Therefore,

Be It Resolved, That the members of the Board of Registration in Medicine tender to Dr. Guy L. Connor their sincere thanks and expression for the services he rendered in acquitting himself of the responsibilities reposed in him by the people of this state. And

Be It Resolved, That we send to Dr. Connor our hearty wishes for the continuance of his health and happiness and the assurance that we recognize the contributions he has made to advanced medical supervision in Michigan, and

Be It Further Resolved, That a copy of these resolutions be adopted, spread upon our permanent records, and a copy sent to Dr. Connor.

Michigan State Board of Registration in Medicine,
By: F. C. Warnshuis, Secretary.

Dated, Jan. 6, 1390."

* * * *

Re: Examiners and Committees for 1929-31.

The President announced the following committees and examiners to serve for the ensuing two years:

Registration and Standard Committee:
Dr. J. D. Brook, Grandville, Chairman.
Dr. Frank A. Kelly, Detroit.
Dr. W. H. Marshall, Flint.
Dr. W. Ellwood Tew, Bessemer.
Dr. T. G. Yeomans, St. Joseph.

Legislative Committee:
Dr. Frank A. Kelly, Detroit, Chairman.
Dr. J. D. Brook, Grandville.
Dr. J. Earl McIntyre, Lansing.
Dr. W. Ellwood Tew, Bessemer.
Dr. Charles A. Teifer, Muskegon.

Examination Committee:
Dr. W. H. Marshall, Flint, Chairman.
Dr. W. A. Lemire, Escanaba.
Dr. J. Earl McIntyre, Lansing.
Dr. Wm. F. English, Saginaw.

Audtiting Committee:
Dr. W. A. Lemire, Escanaba, Chairman.
Dr. Charles A. Teifer, Muskegon.
Dr. W. Ellwood Tew, Bessemer.

* * * *

Dr. Nelson McLaughlin—Physiology.
Dr. W. H. Marshall—Pathology.
Dr. Frank A. Kelly—Surgery.
Dr. J. D. Brook—Practice of Medicine.
Dr. J. Earl McIntyre—Obstetrics and Gynecology.
Dr. W. Ellwood Tew—Chemistry and Toxicology.
Dr. Wm. F. English—Histology and Embryology, Mat. Medica and Therapeutics.
Dr. T. G. Yeomans—Bacteriology; Eye, Ear, Nose, and Throat.
Dr. Charles A. Tiefer—Anatomy.
Dr. W. A. Lemire — Hygiene and Public Health, and Medical Jurisprudence.

* * * *

By Dr. Yeoman, seconded by Dr. Brook:

Resolved, That the expenses of the Secretary incurred in the performance of his official duties, be approved.

Yeas: 9; Nays: 0.

Motion carried.

By Dr. McIntyre, seconded by Dr. English:

Resolved, That the expenses of the Board members, incurred while attending this special meeting, be herewith approved.

Yeas: 9; Nays: 0.

Motion carried.
Upon motion the meeting adjourned.
F. C. Warnshuis, M. D., Secretary.
Nelson McLaughlin, M. D., President.
Dated, Jan. 6, 1930.

Michigan State Medical Society,
1508 G. R. Nat'l Bank Bldg.,
Grand Rapids, Michigan.

January 8,1930.

Dear Sir:

The Civic and Industrial Relations Committee of the Michigan State Medical Society call your attention to three questions which have been under consideration for some time. It is requested that you read this letter to your county society at the next meeting.

1. At the annual meeting of the State Society in Jackson, a resolution was adopted regarding industrial clinics. This resolution cited the fact that nurses and first-aid men, poorly equipped, lacking in experience and without proper training in medicine and aseptic technic, were far exceeding their authority in respect to the treatment of medical and surgical conditions among employes. Specific cases have been reported to this committee of nurses and first-aid men undertaking to do minor surgery. Amputations and suturing of wounds have been attempted and ailments of employes treated with medicines. Foreign bodies in the eye have been removed and even cocain has ben instilled. Instances have been reported where employers have reacted unfavorably toward physicians who have advised against such practice as being dangerous and illegal. This form of practice should be immediately discontinued as it is a direct violation of the Medical Practice Act of this state.

It is advised that county societies maintain a close contact with conditions in factory clinics through physicians engaged in industrial work. Educational measures should be undertaken with local Nurses Associations, Chambers of Commerce, Manufacturing Associations and employers, emphasizing the need of competent medical care for employes and advising them that such care should conform to the provisions of the Medical Practice Act and the Michigan Workmen's Compensation Law. Inability to secure co-operation of employers, nurses and first-aid men should be reported to this committee. The Secretary of the Michigan State Board of Registration in Medicine has promised his support in enforcing the law in cases where it seems to be indicated.

2. The soliciting of industrial work by underbidding contracts, is a practice that should be discontinued among the physicians. Each county society should go on record as disapproving such methods.

3. The appointment of a Civic Relations Committee is recommended for each county society. There is an apparent lack of civic interest among physicians and physicians' associations at the present time. Closer contact should be established with the public in order to gain their confidence and promote higher standards of medical practice in each community. The county medical society should be interested in civic matters as well as in medical welfare. The public should be urged to use physicians as speakers wherever advisable in programs involving civic enterprises and health education. Physicians should also be as interested in politics as the average layman and stand ready to serve the community, county or state whenever called upon. It is desired to establish active spokesmanship in the State Legislature by representatives from the Medical Profession. Each community has at least one physician qualified for such service. There should also be closer contact with Boards of Commerce, Parent-Teacher Associations and particularly Boards of Health.

Each county society should organize a permanent Civic Relations Committee, whose function shall be to take an interest in all worthy civic and lay activities; to study the merit of such activities and make interval reports of them to the Society; to provide a corps of qualified speakers available for service in all lay organizations in the community; and to offer the services of these speakers in local public programs whenever it is deemed advisable.

Respectfully yours.
HARRISON S. COLLISI, M. D.
Chairman, Civic & Industrial Relations Committee.

LUCE COUNTY

Following are the officers of the Luce County Medical Society for 1930:
Dr. R. E. Spinks—President.
Dr. J. T. Redwine—Vice president.
Dr. Geo. F. Swanson—Secretary-treasurer.

Fraternally yours,
Geo. F. Swanson, Sec'y.

MANISTEE COUNTY

I have to report that on December 5, 1929, the Manistee County Medical Society met at Mercy Hospital, in conjunction with the Mercy Hospital Staff.

The following officers were elected:
President—Homer A. Ramsdell, M. D.
Vice president—Ward Norcouk, M. D.
Secretary-treasurer—Kathryn M. Bryan, M. D.
Delegate—A. A. MacKay, M. D.
Alternate—H. D. Robinson, M. D.

The society went on record in the matter of advertising of itinerant doctors in the local paper as disapproving, and the Secretary was directed to so inform the local press.

Fraternally,
Kathryn M. Bryan,
Secretary-treasurer.

OAKLAND COUNTY

Dr. Burton M. Mitchell was elected president of the Oakland County Medical Society for 1930, during Thursday's dinner meeting at the Board of Commerce. More than 50 members attended.

Dr. C. A. Neafie and Dr. Isaac C. Prevette were re-elected to the offices of secretary and treasurer, respectively, while Dr. John S. Lambie was elected vice-president.

Three directors, Dr. Robert Y. Ferguson, Dr. Robert H. Baker and Dr. Frederick A. Baker, were selected also, while Dr. Charles T. Ekelund and Dr. Frank A. Mercer were elected delegates to the Michigan State Medical Society, with Dr. Frederick A. Baker and Dr. Nathan B. Colvin as alternates.

Following the dinner, memberships were granted to Dr. Edwin W. Blatter and Dr. Edmund D. Margrave of Royal Oak. The main address of the evening was presented by Dr. Willis S. Peck of the University Hospital, Ann Arbor, who discussed briefly "The Physiological Action of Physical Therapy Agents."

MARQUETTE-ALGER COUNTY

I wish to report to you the following meeting of the Marquette-Alger County Medical Society:

The annual meeting of the Marquette-Alger County Medical Society was held at Marquette, Michigan, on January 7, 1930.

At 5:00 p. m. the Delft Theater gave the society a complimentary showing of Davis & Geck's motion picture, "The Surgical Treatment of Peptic Ulcers." An invitation had been extended to the dentists and nurses of the two counties to attend this showing, and an audience of about 35 enjoyed the film. This attendance was considered unusually good in view of the condition of the roads in the upper portion of the state at this time of the year.

After the theater, the society enjoyed a roast duck dinner at the Hotel Marquette, and after electing the following officers for 1930 adjourned without transacting any further business to attend an unusually interesting hockey game:

President—Dr. W. A. Corcoran, of Ishpeming, Mich.

Vice president—Dr. S. Lojacono, of Morgan Heights Sanitarium, Marquette, Mich.

Secretary-treasurer—Dr. D. P. Hornbogen, of Marquette, Mich.

Delegate to State Society—Dr. V. Vandeventer, of Ishpeming, Mich.

Alternate delegate to the State Society—Dr. A. W. Hornbogen, of Marquette, Mich.

Sincerely yours,
L. W. Howe, M. D.
Secretary-treasurer.

BERRIEN COUNTY

The Berrien County Society held their December meeting on the 21st at the Four Flags Hotel in Niles. In spite of the storm and the impassable roads there was an attendance of 20. Election of officers was held with Dr. J. J. McDermott as President. Dr. E. W. Tonkin of Niles as Vice President, and W. C. Ellet of Benton Harbor re-elected Secretary and Treasurer. Dr. Ellet was also elected Delegate to the State Society.

The application of Dr. Dean Richman of Houghton County Society, for transfer to the Berrien County Society was received and on motion referred to the Membership Committee.

The scientific program was given by Dr. T. G. Yeomans. His talk was an interesting summary on "Controllable Spinal Anesthesia."

His results in a large number of cases, advantages in operative procedure, and excellence of post-operative recovery were the main points stressed. His technic modified after the Pitkin method was carefully explained and brought forth a very interesting and general discussion. In Dr. Yeoman's opinion this method is probably the safest and has the least number of contraindications of any of the present methods of anesthetization.

The Beriren County Society is very much pleased to have had such an interesting paper given by one of its members. Although spinal anesthesia is not a new procedure, yet previous methods have been risky and not always successful, and the development and perfecting of a new technic demands considerable fortitude from its pioneers.—W. C. Ellet, Secretary.

SHIAWASSEE COUNTY

Shiawassee County Medical Society was addressed by Dr. F. B. Miner, of Flint, at a meeting held at Memorial Hospital, Owosso, Thursday, January 9, on Infant Care and Feeding. This society meets at a noon luncheon on the second Thursday of every month. Dr. Miner's address was practical and interesting. Some of the points made were that a new-born babe should not be given a water bath for at least 24 hours after birth, but an oil bath was much better. Neither should powders be used at first dressings, for the reason they are apt to cause irritation of the skin. Avoid too much clothing and keep the room temperature at about 70 to 72 F.

See that the air of the room is not too dry. On a cold day there should be sufficient moisture present to cause the windows to be slightly "steamy." Hot dry air of the nursery will cause perceptible shrinking in weight of a new-born babe. Feed every four hours, six feedings in twenty-four hours. If bottle-fed, give 1½ to 2 oz. of raw 3½ per cent B. F. milk for each pound that the babe should weigh, (not what it does weigh) and add a tablespoonful of Karo syrup to each feeding. At sixteen months, milk as a part of the diet should be limited to a pint per day, and the mother cautioned not to heed the advice of milk dealers as to how much she should give her babe. During the second year a stated diet should be laid down for the mother to follow. Cod liver oil is good for all babes though all do not need it. However it will do no harm in any case.

W. E. Ward, Sec'y-Treas.

HOUGHTON COUNTY

I wish to submit the following report of the Annual Meeting and election of officers of our Society for 1930.

The annual meeting and dinner of the Houghton County Medical Society was held Tuesday evening, January 8, at Miscowaubik Club, Calumet, Mich. Following a delightful turkey dinner at 7:00 p. m., the business meeting of the Society was held. Reading of minutes of December, 1929, meeting approved. Financial report of secretary showed a balance of $88.93 for January 1, 1930. We had forty-two members for the year 1929 and an average attendance of 45 per cent at our monthly meetings. We had no deaths during 1929, and had 3 new members admitted. We lost 3 physicians by change of location elsewhere.

The following officers were elected for 1930:

President, Dr. W. A. Manthei, Lake Linden, Mich.

Vice president, Dr. G. C. Stewart, Hancock, Mich.

Secretary-treasurer, Dr. T. P. Wickliffe, Lake Linden, Mich.

Delegate to State Meeting 1930, Dr. H. M. Joy, Calumet, Mich.

Alternate delegate, Dr. R. B. Harkness, Houghton, Mich.

Censor for 3 year term, Dr. I. D. Stern, Houghton. Mich.

Committee on Public Health and Legislation, Dr. A. F. Fischer, Hancock, Mich., and Dr. R. B. Harkness, Houghton, Mich.

Meeting adjourned.

T. P. Wickliffe, Sec'y.

CALHOUN COUNTY

MINUTES

The annual business meeting of the Calhoun County Medical Society was called to order in

Room 106 of the Kellogg Inn. Dr. R. V. Gallagher presiding. The report of the Secretary-Treasurer was read and accepted, as printed in Vol. XII, No. 9, of the Bulletin. The Secretary recommended that the expense of the Society be budgeted, and it was moved that a committee be appointed by the President to prepare this budget and submit it at the next meeting. Carried. The following committee was appointed:

Dr. Harry B. Knapp
Dr. A. F. Kingsley
Dr. Joseph Rosenfeld

The minutes of the last regular meeting of the Society were read and approved. The following committee reports were received and read and placed on file:

1. Program Committee — A list of speakers who appeared before the Society was published in the current Bulletin.
2. Entertainment Committee — Through its chairman, Dr. T. Kolvoord, made a good report and recommended that a meeting be held in Marshall or Albion at least once next year.
3. The Public Health Committee, represented by its chairman, Dr. Hoyt, stressed the work of diphtheria prevention and urged the co-operation of all members.
4. The Necrology Committee's report was made by Dr. Kingsley, who reported on the death of a Past President, Dr. George Haynes, of Homer, which took place in 1929.
5. Dr. Estella Norman, chairman of public education, who was away on her vacation, sent the following report by telegraph:

"Absent on vacation. Regret exceedingly inability to attend meeting. During past year members of Calhoun County Medical Society have given over two hundred lectures for the laity reaching approximately twenty thousand people.

(Signed) "ESTELLA NORMAN,
"Chairman."

The following committees did not make a report:

Venereal Disease—Dr. Hoyt.
Illegal Practice—Dr. W. H. Haughey.
Anti-Tuberculosis—Dr. C. R. Hills.

Dr. C. S. Gorsline, chairman of the legislative committee, called attention to the very complete write-up of the work of the legislative committee of the state as published in the November issue of the State Medical Journal, and urged upon each member the need of reading it.

ELECTION OF OFFICERS

After declaring the session open for nomination and election of officers, the following is the result of the election:

For President—Dr. Wilfrid Haughey.
For Vice president—Dr. L. S. Hodges, Tekonsha.
For Secretary—Dr. H. B. Knapp.
For Delegates to State Society—Dr. C. S. Gorsline, Battle Creek, and Dr. George Hafford, Albion.
Alternates—Dr. W. S. Godfrey, Battle Creek, and Dr. W. F. Martin, Battle Creek.

Dr. Gorsline moved that the incoming administration be asked to form the skeleton of a Red Cross organization for emergency work in co-operation with the National Red Cross. Carried.

Dr. Gorsline also announced that members of the Society could still get the club rate on subscriptions to Hygeia for 1930, and urged all to take advantage of this offer.

Members present at the business session: Drs. Baribeau, Dugan, Amos, Elliott, Gallagher, Godfrey, Gorsline, Hancock, Hoyt, Kingsley, Knapp, Rosenfeld, Selmon, Sleight, Van Camp, Barnhart, Cooper, Eggleston, Olson.

Meeting adjourned.

The annual dinner of the Society took place at 6:45, and some ninety members and their wives were seated at four beautifully decorated tables in the dining room. The eating of the dinner was accompaneid by instrumental music by an orchestra. The meeting was presided over by Dr. Gallagher. Mr. Lawrence Meyer, accompanied by Mrs. Alta Drever, rendered two baritone solos, which were very well received.

The speaker of the evening, Dr. William S. Sadler, of Chicago, was introduced and spoke very learnedly on "The Doctor in Society and Business." His talk was listened to with exceptional interest, and while it was full of commonplace experiences, it was told with telling effect in stimulating thought and study into the possible future of medicine. Dr. Sadler, in referring to the status of the practice of medicine, said that from the handwriting on the wall it looked to him unless we "sawed wood" and every man got "on his toes," the time was coming that as free and independent doctors we would wake up and find we were "out of it." That the state medicine would commandeer the services of the physician, pay him a nominal salary, and the day of scientific progress would be over. This condition of affairs exists today in Europe, and has come about in spite of the great educational and clinical advantages of those countries. As doctors, we should stick to our job of healing the sick, but should also take interest in the public welfare and co-operate with all agencies having for their object the betterment of the people. He thought that the irregular healers were gaining in public sympathy and legislative prowess, and estimated that at least one-sixth of the people of this country only called on a physician for healing except in the greatest emergency. In spite of the higher class of learning and training of the present-day doctors, they are held in a higher degree of contempt by the public in this country than any country of the world. The irregulars and cults often inspire confidence in the patients because of the use they make of physio-therapy, a thing doctors have been too slow to make use of. Failure on our part to train technicians and assistants to work under our direction has given the opportunity to irregulars, which they are taking advantage of to a remarkable degree.

Medicine too often attracts to itself men who are not good business men, and they do not take economic advice readily. As a profession, we fail to recognize the state of public opinion, and we are unsuspecting victims of social revolution. Group practice solves some of the difficulties, but not all. It is estimated that 70 per cent of the public that frequent doctors' offices are neurotic, and need clinical psychology to help him get a proper viewpoint of life. Medical schools should teach more neurology, and every doctor should be able to psycho-analyze his patient.

The age is a fast moving one, and we cannot practice like we used to do. We should form all the contacts possible in social and political life, fight our way to the place where we can prevent, through public opinion, the state and government interfering with the free exercise of the healing art. We should check up on ourselves and co-operate in every honest method looking towards the

continual improvement in scientific medicine as a means of relieving suffering humanity.

Present at meeting, 105.

HARRY B. KNAPP,
Secretary.

KALAMAZOO COUNTY

SECRETARY'S REPORT FOR DECEMBER

The forty-sixth annual meeting was called to order by the president, Dr. Ward Collins, at 2 p. m. About 35 members were present.

Dr. Barrett reported for the Public Health Committee and expressed the committee's appreciation for the co-operation given by the Academy during the past year.

Other committees handed written reports to the secretary.

Election of officers.

Dr. W. E. Shakelton nominated Dr. J. C. Maxwell for president; Dr. A. A. McNabb moved that the rules be suspended and the secretary be instructed to cast a unanimous ballot in Dr. Maxwell's favor. Seconded and unanimously carried.

The nominating committee submitted the following names for other officers:

1st Vice President—Sherman U. Gregg.
2nd Vice President—R. P. Beebe.
3rd Vice President—A. A. McNabb.
Treasurer—Hugo Aach.
Librarian—Clara Unrath.
Censors—W. C. Huyser and W. E. Shackelton.
Delegates—F. T. Andrews and F. C. Penoyer.
Alternate delegates—L. H. Stewart and J. H. VanNess.

Dr. L. E. Westcott moved that the secretary be instructed to cast a unanimous vote in favor of the above named nominees. Seconded by Dr. Snyder. Unanimously carried.

Dr. F. T. Andrews called the attention of the members to the recommendation of the last house of delegates meeting that it was quite necessary that we have an active committee on Medical Education. He asked that special stress be given this point, and the new president's attention called to this matter.

The president's exaugural address by Dr. Ward Collins on "Intra-cranial Birth Injuries" was given while Dr. Hobeke took the chair. (An abstract will appear in the February Bulletin.)

F. A. Racette D. D. S. gave a very interesting discussion on "Orthodontia in relation to Medicine" and ililustrated his talk wih a number of models.

Richard Smith, M. D. of Grand Rapids, gave a very thorough discussion on the "End Results Following Operation on Carcinoma of the breast." His statistics were very well brought out by lantern slide charts.

The Annual Banquet given by the Upjohn Company to the Academy of Medicine and the Womans' Auviliary was very well attended by both organizations. The music was excellent and the dinner most excellent.

Dr. Collins introduced Dr. Morter the toastmaster of the occasion who took full charge of matters by relating his intensive preparation for this important post, which includes a trip to Boston with one of the inmates of the State Hospital.

Dr. Caldwell gave the address of welcome for the Upjohn Company and invited us to visit their Medical Library.

The new president, Dr. J. C. Maxwell, was introduced as was Mrs. Z. L. Gilding, the new president of the Womans' Auxiliary.

The feature of the evening was a talk by Dr. Smith Burnham on the "Growth of the Constitution of the United States."

All in all it was a day and evening enjoyed by every one.

PLEASE NOTICE

The secretary is taking this convenient and less laborious way of notifying the new committee members of their appointment.

The following is a list of the committees appointed by the president, Dr. J. C. Maxwell. Those named first under each committee are the chairman.

Program—C. L. Bennett; William Hoebeke, Louis Gerstner.

Clinical Program—C. E. Boys; R. J. Hanna, H. A. Eears.

Public Health—Elizabeth F. Barrett; John MacGregor, Wilbur C. Medill.

Anti-Tuberculosis—B. A. Shepard; G. M. Riley, L. V. Rogers.

Social Function—David E. Squires; D. C. Rockwell, Wm. R. Young.

Social Hygiene—C. A. Youngs; J. D. Stewart, F. B. Crowell.

Medico-Legal—Rush McNair; C. A. Barthomew, E. P. Wilbur.

Membership—A. W. Crane; Neil H. Goodrich, W. R. Vaughn.

Legislative—L. J. Crum; H. J. VanNess, W. P. Bope.

Public Education—J. B. Jackson; L. E. Westcott, W. E. Collins.

Your Public Health Committee wishes to report that a number of the members of the Academy of Medicine have co-operated with the University of Michigan in carrying out its Health Extension program. Health lectures were given last year and are being given this year in all of our Junior High Schools. The work has also been carried out in some of the nearby villages and cities.

Our per-school clinic sponsored by the local Parent-Teachers Association and the Child Welfare League was held last spring and an invitation was extended to bring in pupils of the County for examination.

A school clinic was held this fall at Knollwood, 75 were examined. About 200 of the students of the W. B. Kellogg Agricultural School were examined a week ago. Arrangements were made for an Educational program following the last clinic.

Instruction in sex hygiene was given in the Junior High Schools of our city.

Respectfully submitted,

L. V. Rogers
J. T. Burns
F. Elizabeth Barrett.

The medico Legal Committee respectfully reports.

During the year, three instances of illegal practice of Medicine have been referred to this Committee.

This Committee does not interpret its duty to be to institute prosecutions against an illegal practitioner; but does interpret its function to be to examine into such cases, and make recommendation to the Academy.

The Academy should take responsibility for any procedure against offenders.

While the cases referred to the Committee were

distinct infractions of the Michigan medical laws, yet sufficient proofs of same, were not forthcoming.

It must be taken intot consideration that the public usually sympathizes with the accused, attributing to the profession the motive of jealousy.

Therefore prosecutions under the medical laws, must be proved and over proved.

During the year tow suits of malpractice have been instituted against members of the Academy. Both suits, it now appears, are dying of their own inherent weakness.

It is to the credit of the Academy, that no member will lend himself to an unjust action against any other member.

Signed,

Rush McNair,
E. D. Sage,
J. E. Maxwell.

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.
MRS. J. EARL McINTYRE, Secretary, Lansing, Mich.

The first opportunity, in a big way, for the Woman's Auxiliary to the Michigan State Medical Society to meet our neighbors from other states, comes in June at Detroit. Our state president has been busy for several weeks trying to help perfect plans for a rousing meeting which will show something constructive and give our men folks some concrete idea that there is a real place for us in the activities of state and national associations as well as more local county affairs.

Memberships are increasing but not fast enough. Now is the time to start your local Auxiliary and have it in going condition before the June meeting.

Now you, Mr. Doctor, show this article to your wife or best girl or some one who will help us put on a wonderful meeting at Detroit, and be sure and see that the old car is working and that she gets there.

One activity of the Auxiliary which our husbands probably do not know even exists and which has been in existence for many years before the Auxiliary was even thought of, has to do with our co-operation with the various Boards of Health.

How many times have the wives been asked whether they thought the chidren should receive toxin antitoxin or should be vaccinated, what she thought of the Dick test? etc. Would it not be a good idea for the health officer of the state or in communities where there is a full time health officer, then such officer to get out a pamphlet once in a while, describing those treatments and theresults obtained and also to be hoped for?

Many physicians' wives have been trained nurses, but many have not. Those who have had training, soon loose touch with medical advances and husbands are more likely to tell of the latest golf score or result of the bowling match than to give a description of thoseactivities which become second nature to him.

Another work the Auxiliary could do is to see that "Hygeia" is placed in all schools, and see that the teachers make use of it in a way similar to nature magazines and others.

MRS. E. S. PETERSON,
Member of the State Board.

BOOK REVIEWS AND MISCELLANY

Offering Suggestions and Recommendations

BACTERIOLOGY FOR NURSES—Harry W. Carey, A. B., M. D., Assistant Bacteriologist Laboratory, Albany, N. Y. (1901-1903). Pathologist to the Samaritan Hospital, Troy, N. Y., Cohoes Hospital, Cohoes, N. Y. and Putnam Memorial Hospital, Bennington, Vermont. Third revised and enlarged edition. Illustrated with forty-three engravings and one colored plate. F. A. Davis Company, Publishers, Philadelphia, Pa. Price $2.25.

HEMORRHOIDS—THE INJECTION TREATMENT AND PRURITUS ANI—Lawrence Goldbacher, M. D., Philadelphia, Pa. Illustrated with 31 half-tone and line engravings, some in colors. F. A. Davis Company, Publishers, Philadelphia, Pa. Price $3.50 net.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month)—Volume 9, number 6. (Lahey Clinic Number—December, 1929) 188 pages with 51 illustrations, and complete Index to Volume 9. Per Clinic year (February, 1929 to December, 1929). Paper, $12.00; cloth, $16.00. Philadelphia and London.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month)—Volume 13, number 3. (New York number, November, 1929). Octavo of 272 pages with 58 illustrations. Per Clinic year, July, 1929 to May, 1930. Paper, $12.00; cloth, $16.00 net. W. B. Saunders Company, Philadelphia and London.

APPLIED ELECTROCARDIOGRAPHY—By Parsonnet. The Macmillan Company, New York. Price $4.00.

That interest in electrocardiography is increasing is shown by the great number of books on this subject which are appearing. Among those which have recently come from the press is the book entitled "Applied Electrocardiography" by Parsonnet and Hyman, which is very practical for the beginner, as it presents the subject in a simple and readable form. After a short description of the anatomical and physiological basis of the subject, the various machines at present on the market are mentioned, with an explanation of their operation. Following this, an account is given of the diseases of the pacemaker and the forms of abnormal rhythm. Sufficient electrocardiograms are given to thoroughly illustrate the subject and the purpose of the book is well carried out in making important material on this subject available for those who begin in this line of work.

THE NEWER KNOWLEDGE OF NUTRITION; the Use of Foods for the Preservation of Vitality and Health—By E. V. McCollum, Ph. D., Sc. D. Professor of Clinical Hygiene in the School of Hygiene and Public Health of the Johns Hopkins University, and Nina Simmonds, Sc. D. Illustrated, Fourth Edition, Rewritten. Prince $5.00. The Macmillan Company, New York.

There are few departments in medicine that are characterized by more active research than that of nutrition. The literature on the subject is voluminous, yet the above named authors have been able to produce a book of convenient size, approximately 600 pages, embodying the results of investigation necessitating the re-writing of the third edition of the work which appeared only five years ago. The Fourth Edition contains the recent discoveries concerning the etiology and treatment of the anemias; the dietary requirements of blood regeneration; the experience in recent years in the control of goitre through the provision of iodine; recent researches on the relation of diet to bone development, the calcification of fractures, as well as those on the prevention of rickets. There is an interesting account of ergosterol, the active principle of cod liver oil together with its therapeutic value.